



ENHANCED PLANNING INVESTIGATION

MRB SOUTH GBR: LA 1 TO LA 30 CONNECTOR

STATE PROJECT NUMBER H.013284

Ascension, East Baton Rouge, Iberville, and West Baton Rouge Parishes

PREPARED FOR:



Louisiana Department of Transportation and Development
1201 Capitol Access Road
Baton Rouge, LA 70802

PREPARED BY:

Atlas Technical Consultants LLC
8440 Jefferson Hwy, Suite 400
Baton Rouge, LA 70809

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ACRONYMS AND ABBREVIATIONS

ADT	Average Daily Traffic
CRPC	Capital Region Planning Commission
DOTD	Louisiana Department of Transportation and Development
DOTA	Department of Transportation Act
EFH	Essential Fish Habitat
EJ	Environmental Justice
EPI	Enhanced Planning Investigation
FHWA	Federal Highway Administration
GIS	Geographic Information Systems
GBR	Greater Baton Rouge
I-10	Interstate Highway 10
LA #	Louisiana State Highway #
LDEQ	Louisiana Department of Environmental Quality
MTP	Metropolitan Transportation Plan
MRB	Mississippi River Bridge
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
PEL	Planning and Environmental Linkage
ROW	Right-of-Way
T&R	Traffic and Revenue Analysis
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USCG	U.S. Coast Guard
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VHT	Vehicle Hours Travelled



SECTION 1

INTRODUCTION



MRB SOUTH GBR: LA 1 TO LA 30 CONNECTOR ENHANCED PLANNING INVESTIGATION

1.0 INTRODUCTION

1.1 BACKGROUND

Over the last twenty years or more, public, political, and industrial angst over Baton Rouge traffic conditions have intensified. Various discussions of capacity improvement and new roadway construction generally included a south loop, a northern “bump” (AECOM 2014), a full loop around Baton Rouge, and widening the Interstate Highway 10 (I-10) corridor. Many of these discussions led to inclusion of the project ideas in the Capitol Region Planning Commission’s (CRPC) long range plans and into the Louisiana Department of Transportation and Development (DOTD) project delivery process. The CRPC’s Baton Rouge Metropolitan Planning Organization Metropolitan Transportation Plan (MTP) 2037 (CRPC 2013) and MTP 2046 (CRPC 2022) mention the connection of Louisiana Highway (LA) 1 and Nicholson Drive (LA 30) with a new four-lane roadway and Mississippi River bridge in the list of projects identified as Vision Plan Needs. The Vision Plan identifies necessary projects that were unfunded at the time of the plan.

The Baton Rouge Loop Tier 1 Environmental Impact Statement (Federal Highway Administration [FHWA], DOTD, and Capital Area Expressway Authority 2015) proposed wide, generalized corridors to circle Baton Rouge with connecting roadways to I-10, I-12, I-110, U.S. Highway 61 (US 61), US 190, LA 1, and LA 30. Due to funding constraints and opposition from Parish governments within the CRPC, the Loop project did not progress to design or to construction.

With lessons learned from the Baton Rouge Loop project, DOTD sought to limit the scope of the project to a river crossing to connect LA 1 and LA 30 between I-10 and the Sunshine Bridge (LA 70). The generalized cross-river corridors identified for the southwest quadrant of the Baton Rouge Loop project would potentially address the connectivity and capacity concerns along the Mississippi River. In 2016, the DOTD and the I-10 Corridor Improvement Study Project Team completed a Stage 0 Feasibility Study and Environmental Inventory which sought to identify an additional Mississippi River crossing within the geographical constraints of I-10, LA 30, Sunshine Bridge, and LA 1 (DOTD 2016). That crossing proposed an integrated a multi-lane structure for vehicles and a single railroad track.

As a proposed traffic mitigation measure for commuters during the I-10: LA 415 to Essen Lane widening project, CRPC conducted a Ferry Feasibility Study (CRPC 2022). The study identified two ferry crossing routes connecting the west bank and east bank of the Mississippi River. The northern route proposed to connect Court Street in Port Allen to Downtown Baton Rouge’s municipal dock or as it is colloquially called, the paper clip. The southern route would connect Phillips Lane in Brusly to Oklahoma Street in Baton Rouge at the Water Campus. The ferries would serve pedestrians, no vehicle access would be provided. Transit routes would service the



ferry landings to connect riders with their final destinations. The Canal Street to Algiers Ferry in New Orleans is run similarly and was used as an example of an established and reasonable cross-river solution for commuters and tourists. Unlike the Canal Street to Algiers Ferry, the Baton Rouge pedestrian ferries are proposed as short-term service to provide an alternate route to commuters during construction of the I-10 widening project and its expected traffic congestion.

In July 2020, the DOTD and FHWA initiated an Enhanced Planning Investigation (EPI) of a new crossing of the Mississippi River connecting LA 1 on the west side of the river to LA 30 on the east side of the river (State Project Number H.013284, Mississippi River Bridge [MRB] South Greater Baton Rouge [GBR]: LA 1 to LA 30 Connector). A geographic area north of LA 70 and south of I-10 encompassing portions of Ascension, East Baton Rouge, Iberville, and West Baton Rouge Parishes (Project Area) was investigated for placement of a new river crossing (**Figure 1**).

1.2 PRELIMINARY PURPOSE AND NEED

What are the problems in the Project Area? Why is this project needed?

The major roadway network serving the five-parish region that includes East and West Baton Rouge, Ascension, Iberville, and Livingston Parishes is aging and unable to support existing and expected growth (CRPC 2022). The population and employment growth forecasted to occur by 2046 included in the Travel Demand Model (TDM) indicates that the number of person trips in the Metropolitan Planning Area will increase from 3.53 million in 2020 to 4.61 million in 2046 (CRPC and DOTD 2022). There is a lack of alternate routes across the Mississippi River in the Baton Rouge metro area. Of the three existing fixed bridges (I-10, U.S. 190, and LA 70), the highest traffic volumes are on the I-10 bridge. The U.S. 190 and LA 70 bridges have lower average daily traffic but are available alternate routes with variable convenience to drivers. Inadequacies in the transportation network have caused the use of the interstate system as the primary commuter route for daily drivers and collector roads (LA 1 and LA 30) used as high-volume roadways, exceeding design capacities. Coupled with the lack of available alternate routes, particularly to serve traffic during periods of interstate closure, these issues have resulted in significant congestion on LA 1, LA 30, and I-10 and deterioration of transportation system infrastructure.

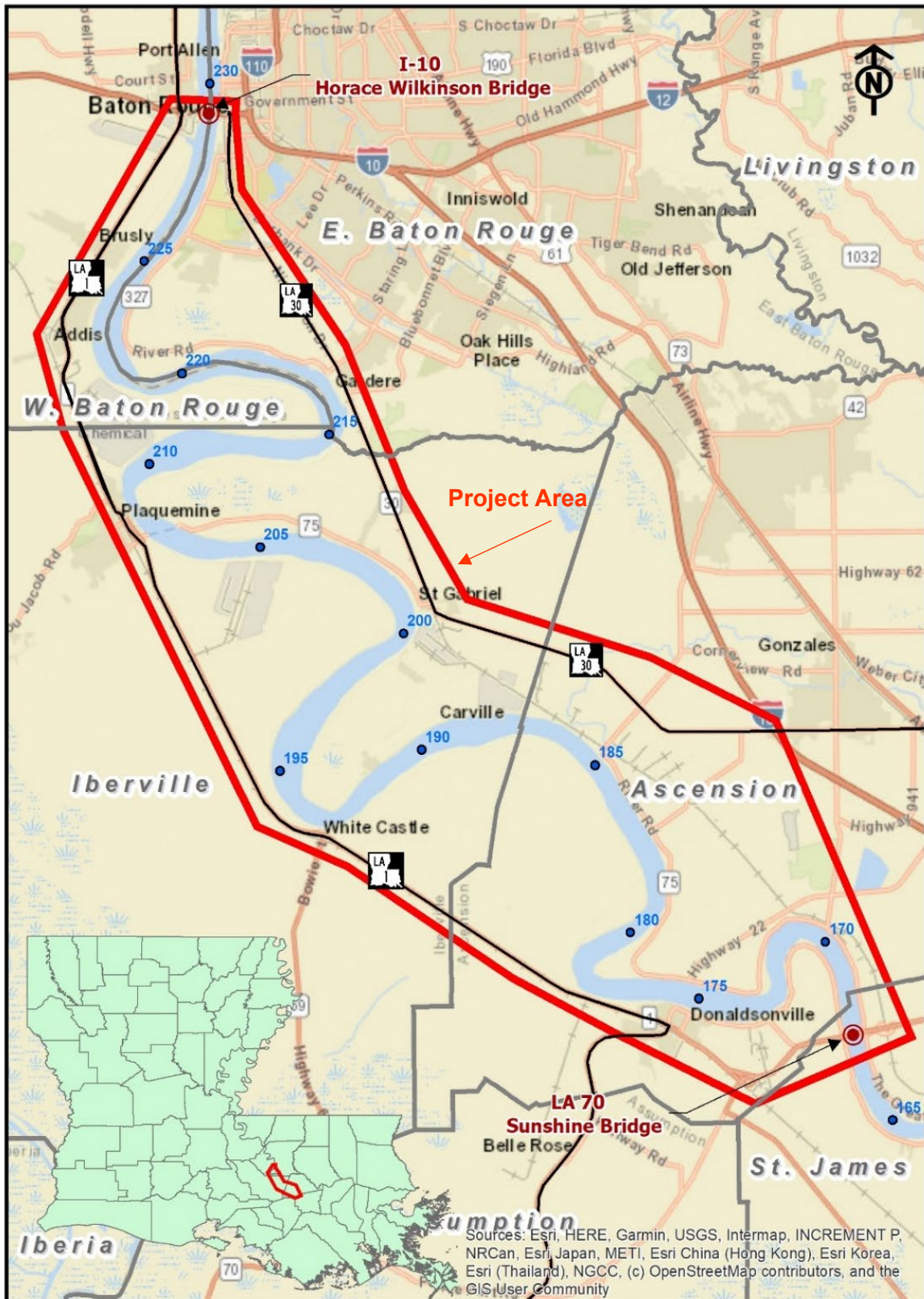
How does DOTD propose to address the problems? What is the purpose of the project?

The proposed project is being developed with a preliminary purpose:

- to provide increased capacity and improved connectivity across the Mississippi River, and
- to provide an alternate route for emergency evacuations in response to incident-related closures.

The new bridge crossing is expected to be a tolled facility. In times of emergency evacuation, DOTD will suggest that the concessionaire suspend the toll.

Figure 1
MRB South GBR: LA 1 to LA 30 Connector Project Area





A goal of the project is to reduce traffic congestion in the Project Area. An additional crossing of the Mississippi River is part of DOTD's multi-pronged approach to improve traffic conditions in the Baton Rouge Metropolitan Area. Other elements of DOTD's approach include the widening of I-10 from LA 415 to Essen Lane, the LA 415 to LA 1 connector, and U.S. 190 improvements.

The objective of this EPI is to identify feasible corridor alternatives that best meet the preliminary purpose and need of transportation improvement, while preserving existing resources, and could be further advanced into DOTD's Project Delivery Process. Feasible, in this EPI, means that a proposed corridor:

- meets the purpose and need,
- is presumed permissible (per agencies with jurisdiction), and
- can be designed and built using proven engineering and construction practices.

1.3 EXISTING TRANSPORTATION FACILITIES IN PROJECT AREA

There is no "fixed" cross-river connection from LA 1 to LA 30 between the I-10 Mississippi River Bridge and the Sunshine Bridge. The Plaquemine Ferry crosses the Mississippi River connecting LA 1 and LA 30 from Plaquemine to Sunshine daily. Ferry service has limited operating hours: 4:30 am to 9:00 pm on weekdays and 9:30 am to 7:00 pm on weekends. The Plaquemine Ferry carries 35 cars per one-way river crossing. A second boat is used when available. Inclement weather or vessel maintenance can interrupt service hours.

LA 1 is a Rural Principal Arterial, and LA 30 is an Urban Principal Arterial. The outside shoulders along LA 1 northbound/southbound are paved and range in width from 2 to 10 feet. The outside shoulders along LA 30 are paved and range in width from 2 to 10 feet on roadways and 2 feet on bridges. According to DOTD guidance, shoulders along rural arterials (or urban arterials with no curbs) can serve as bicycle and pedestrian facilities.

1.4 CORRIDOR VISION

The proposed roadway would connect LA 1 to LA 30 via a controlled access, 4-lane divided roadway (Rural Arterial). Travel lanes would be 12 feet wide and outside shoulders would be paved and 8 feet wide. One bridge structure would span the Mississippi River with the same lane and shoulder widths as described for the roadway.

The proposed roadway would meet the project's purpose and need as well as many of the goals established by the CRPC and DOTD in the MOVE 2046 long-range transportation plan. The MOVE 2046 goals that are supported by this project include: Improving and Expanding Transportation Choices; Providing a Reliable and High Performing Transportation System; Supporting the Economic Vitality of the Region; and Considering the Relationship of Transportation, Community, and Environment.



1.5 DATA COLLECTION

A key component of any EPI is the collection of available data relative to the human and natural environment, including traffic and navigation related data. The potential corridor locations were evaluated or screened against these data sources in a project-developed Geographic Information System (GIS).

The publicly available data or data provided to the project team from agencies were collected and assembled in the project GIS which are shown in **Exhibit 1** and listed below. The purpose of **Exhibit 1** is to illustrate the abundant coverage of data point resources collected within the Project Area and is not intended to be legible.

General Infrastructure:

- Roads,
- Utilities: Electrical Lines and Pipelines (crude, petroleum, natural gas),
- Oil and Gas Wells,
- Louisiana Department of Environmental Quality (LDEQ) Permitted Facilities,
- Airports,
- Schools,
- Hospitals,
- Churches, and
- Other structures (such as residences and businesses)

Other Resources:

- Demographics (minority/poverty),
- Known Cultural/Historic Resources,
- Cemeteries,
- Wetlands,
- Sole Source Aquifers,
- Water Wells,
- Flood Zones,
- Prime Farmland,
- Parks/Recreation Areas/Refuges/Wildlife Management Areas,
- State Lands,
- Essential Fish Habitat, and
- Hazardous Materials Sites.

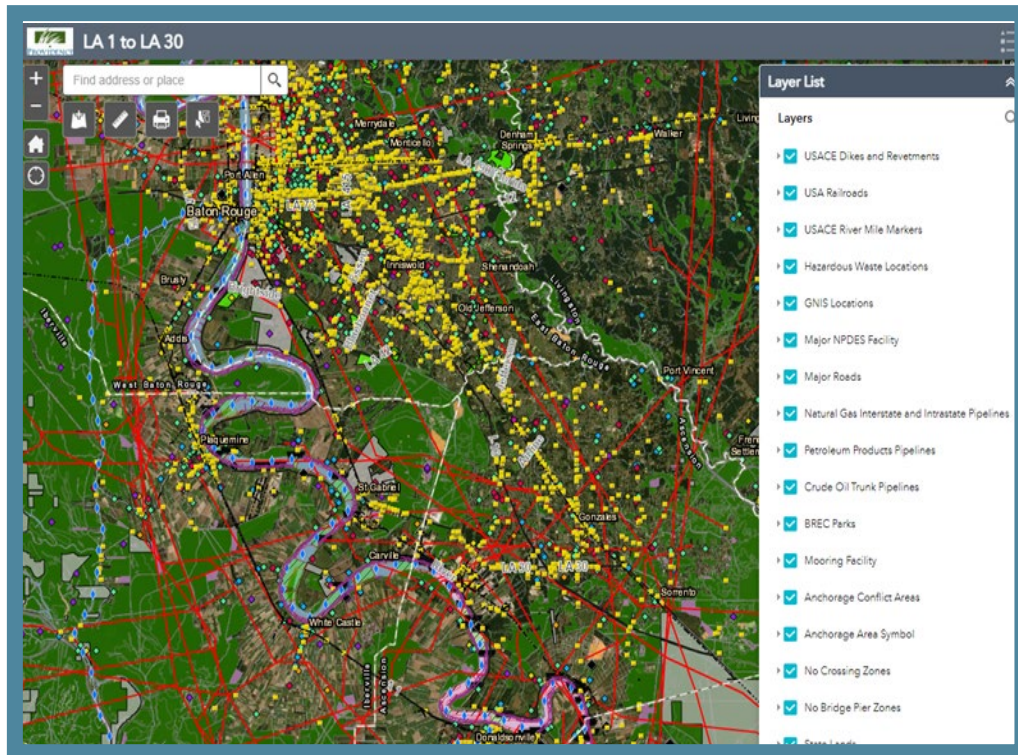


Exhibit 1. Collection of Databases Assembled and Projected in the MRB South GBR Project’s GIS Mapper

1.6 INITIAL AGENCY COORDINATION

In November 2020, correspondence was prepared and transmitted to Federal and state agencies to inform the agencies of the intent of the EPI and to collect information from the agencies. The project team collected responses and added locations of any resources that may exclude areas or constrain the limits of preliminary alternative corridors within the project area. A sample agency letter, the distribution list, and all responses received are provided as **Appendix A**.

As the project progressed, additional public data sources were added to the GIS, including land use, ground-obtained data confirming residential and business structures, and substantiated data provided by the commenting public. Agency and riverine stakeholder-obtained navigation data was also included.

1.7 EPI DOCUMENT

This document details the development of preliminary alternatives, from the development of potential bridge locations through screening level analysis of each location. Screening of alternatives occurred in three primary stages: prescreening, Round 1 screening, and Round 2 screening. At the conclusion of Round 2 screening, alternatives selected to advance into DOTD’s Project Delivery Process were identified. Supporting documentation is provided in the Appendices.



This EPI, including all of its appendices and other supporting documents, was developed as a planning product. DOTD intends to adopt or incorporate by reference all or any portion of the planning products (e.g., decisions, analyses, studies, other documents) which are sufficient to meet the requirements of the National Environmental Policy Act of 1969 (NEPA, 42 U.S. Code [USC] 4321 et seq.) and section 1502.21 of title 40, Code of Federal Regulations (as in effect on the date of enactment of the FAST Act), from this planning review into the environmental review process in accordance with 23 USC Chapter 1 §168 (b)(1). To ensure that this document can be adopted or incorporated into the NEPA process during the Environmental Stage, the Planning and Environmental Linkage (PEL) Questionnaire is included in Section 7, a Stage 0 Scope and Budget Checklist and a Stage 0 Environmental Checklist have been completed and are included as **Appendix B**.



SECTION 2 PRESCREENING



MRB SOUTH GBR: LA 1 TO LA 30 CONNECTOR ENHANCED PLANNING INVESTIGATION

2.0 PRESCREENING

2.1 PRESCREENING METHODOLOGY

To identify potential sites for bridge placement, prescreening was initiated to determine locations in the project area whereby a corridor crossing the river would not be reasonable or feasible because of specified constraints so that the constrained areas would be avoided altogether. A geographic area containing constraints (such as a navigationally conflicted area and/or the presence of a particular resource) could be considered unreasonable or not feasible (or a fatal flaw of the project) and removed from consideration before time was invested in developing a bridge crossing corridor at that location. **Figure 1** demonstrates the overall Project Area.

The evaluation factors for which the Project Area geography was prescreened are navigational constraints, bridge main span length, and overall placement and land area occupied by LDEQ permitted facilities (chemical plants, refineries, natural gas facilities, etc.).

2.1.1 Navigational Constraints

In support of identifying the prescreening navigational constraints, a Navigation Study was conducted. The Navigation Study identified areas of the Mississippi River where anchorages, revetments, pipeline crossings, piers, and other bridges are currently located. A new bridge crossing within or near anchorages, revetments, pipeline crossings, piers, or other bridges would not be permitted by the United States Coast Guard (USCG). The Navigation Study Engineering Report is included as **Appendix C**.

Navigational constraints were assigned to one of two primary categories, No Bridge Zone (Anchorage) and No Pier Zones. Any portion of the Mississippi River that represents a No Bridge Zone (Anchorage) would be eliminated from further evaluation.

2.1.1.1 No Bridge Zones (Anchorage)

No Bridge Zones (Anchorage) are federally authorized anchorage locations where no bridges are permitted. The Navigation Study Engineering Report mapped a 500-foot buffer around the No Bridge Zones (Anchorage). This buffer assures that a preliminary bridge crossing alternative would be proposed at least 500 feet from an anchorage.

2.1.1.2 No Pier Zones

No Pier Zones encompass mooring and fleeting areas, revetments, main channel vessel crossing locations, and subsurface utility river crossings. The Navigation Study mapped the following buffers (on all sides) for the No Pier Zones: 500 feet for mooring and fleeting areas, 1,000 feet for revetments, and 250 feet for vessel and subsurface utility channel crossings. Construction or installation of piers are not permissible in these areas. While the No Pier Zones would affect



bridge location and design, they were not part of the prescreening except as relative to bridge main span length as discussed below.

A bridge could theoretically be built to completely span the river and avoid the levee system; however, the cost and complexity of such a span could be considered unreasonable. Therefore, it was necessary to establish a maximum bridge main span length that could be considered together with the No Pier Zones to determine the viability of potential bridge locations. Reasonable span lengths are primarily dependent upon technical design and construction limitations, project site conditions, and funding availability. For the purposes of the prescreening and this project, the maximum reasonable main span length was determined to be approximately 2,000 feet. This span length is consistent with the current state of bridge design practice in North America. **Appendix D** contains the rationale for restricting the main span length to approximately 2,000 feet.

A geographic area representing a river crossing location that exceeds the approximate maximum reasonable span length (due to No Pier Zones) would be eliminated from further evaluation. It is noted that no bridge designs were conceptually developed during the prescreening. Only measurements of the width of the river assuming perpendicular bridge crossings were used in prescreening.

2.1.2 LDEQ Permitted Facilities

LDEQ permitted facilities represent facilities holding permits from LDEQ for a variety of activities, including but not limited to:

- Obtaining process or makeup water either from the Mississippi River or from groundwater,
- Discharging wastewater and/or stormwater,
- Treating groundwater or other contaminated media,
- Air emissions, and
- Various waste transport, treatment, generation, disposal, or storage activity.

Such permits include Louisiana Pollutant Discharge Elimination System, Title V (for air emissions), and Resource Conservation and Recovery Act permits (for wastes and contaminated groundwater). Many of these facilities represent production facilities occupying more than 10 acres that provide substantial economic benefit to the region and the state. Due to the nature of the chemical processes employed at these facilities and the infrastructure necessary for operation, a geographic area dominated by one or more of these permitted facilities such that the facility(ies) infrastructure cannot be avoided in the consideration of a transportation corridor would be eliminated during prescreening.

Facilities occupying 10 acres or less could potentially be avoided, impacts minimized with route modifications, or potentially relocated. These effects are not considered unreasonable to the extent of elimination during prescreening.



2.1.3 Summary

The rationale during prescreening for immediately eliminating a geographic area or stretch of the river as appropriate for a new river crossing site included:

- a. A designation of No Bridge Zone (Anchorage),
- b. A No Pier Zone of sufficient distance to measurably exceed the main span length approximate maximum, or
- c. Any area that cannot support a route that will not result in the segmentation of the infrastructure of an LDEQ permitted facility occupying more than 10 acres.

Appendix E contains a set of maps showing the noted navigational constraints in the project area as well as LDEQ permitted facilities.

2.2 PRESCREENING RESULTS

After geographic areas that would not reasonably support a new transportation corridor across the Mississippi River within the Project Area were removed, the remaining areas were reviewed for viability. Upon analysis of these remaining areas, 32 preliminary alternatives were considered reasonable at the prescreening level and were recommended to move forward into Round 1 Screening.

To distinguish among alternatives, a naming convention was needed. Each preliminary alternative has: an intersection with LA 1, a river crossing, and an intersection with LA 30. The names for the preliminary alternatives are based on these 3 components and ordered from north to south in the study area. Intersections with LA 1 are represented by a capital letter, River Crossings are numbered, and Intersections with LA 30 are represented by a Roman numeral. For example, the northernmost crossing was named A-1-I and the southernmost crossing was named N-28-X.

DOTD suggested a comparison among the 32 preliminary alternatives and the five corridors previously identified as feasible future new bridge locations in the LA 1 to LA 30 Connector Stage 0 Feasibility Study, dated August 2016 (2016 Feasibility Study). Three of these five corridors were also identified in the Baton Rouge Loop Tier 1 Final Environmental Impact Statement (December 2015).

The five corridors from the 2016 Feasibility Study were added into the GIS to consider if any of the previously identified corridors were not represented by the recommended preliminary alternatives. This exercise revealed that Alternative 5, the red alternative from the 2016 Feasibility Study, was not represented by the 32 preliminary alternatives. A decision was made to modify the initial alternative D-10-IV to be representative of the red alternative. Terminus Point D (on LA 1) of the new alternatives was originally located in very close proximity to LA 1 terminus Point E near Old Evergreen Road south of the City of Plaquemine. As these two termini could essentially

represent one terminus, the original Point D was shifted north of Plaquemine at Woodlawn Road (LA 1148) to accommodate the former Alternative 5 corridor. **Exhibit 2** provides a map showing the differences in the original D location and the revised D location along LA 1.

The now shifted Preliminary Alternative D-10-IV (the Origin Point D alternative) could not be relocated into the exact Alternative 5 corridor because of existing navigational constraints. The 2016 Feasibility Study only involved desktop research (no agency involvement, public outreach, or field survey). However, the Baton Rouge Loop EIS project coordinated proposed bridge alignments with the United States Army Corps of Engineers (USACE) and USCG to identify any navigational concerns. Preliminary Alternative D-10-IV was relocated as close to the navigationally constrained portion of the river as possible.

Figure 2 shows the 32 preliminary alternatives advanced to Round 1 and the five corridors from the 2016 Feasibility Study.

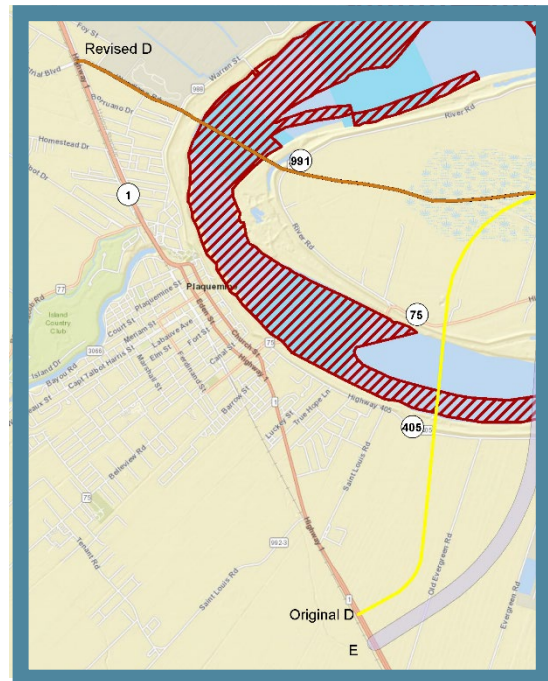
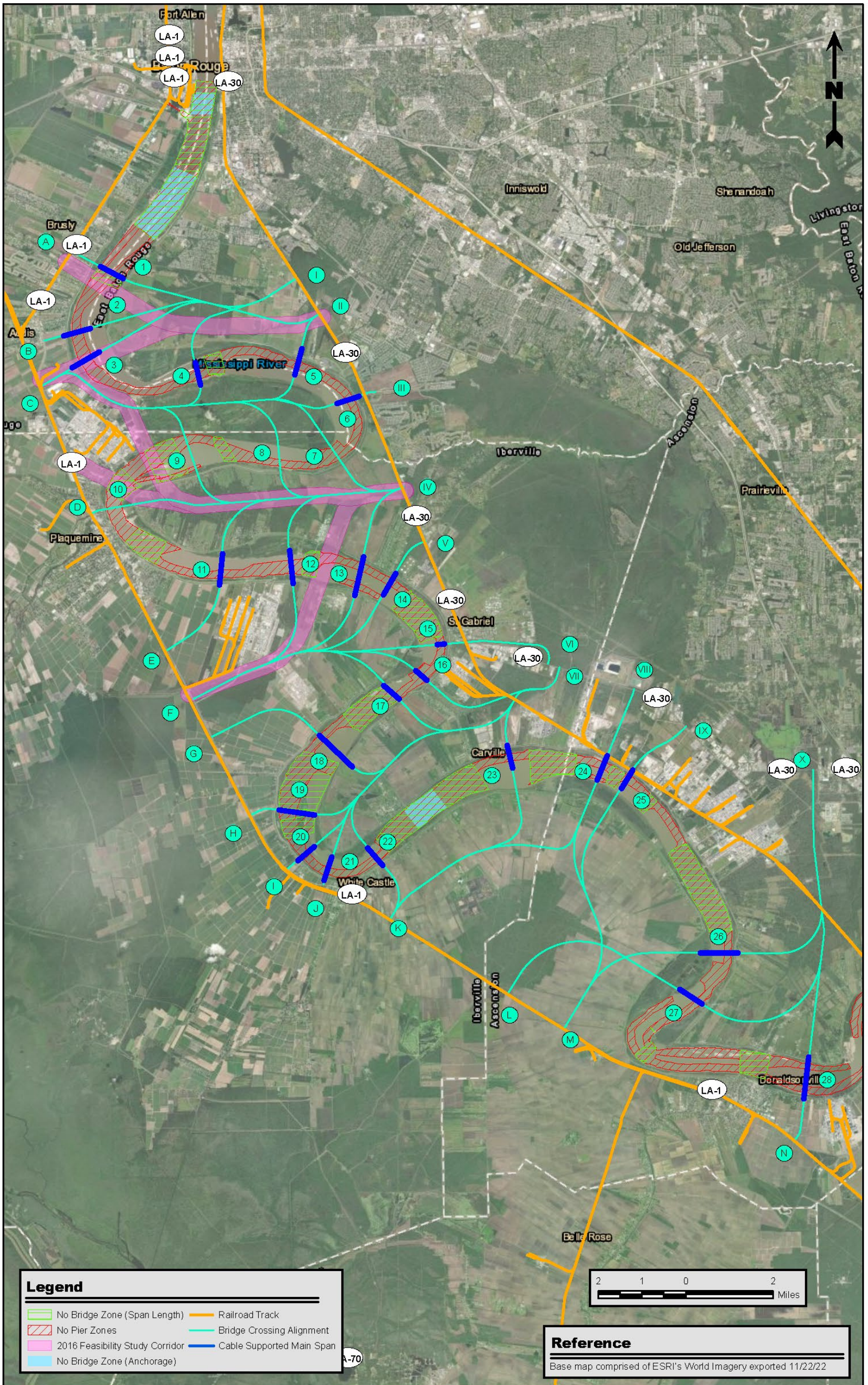


Exhibit 2. Illustration of the Original and Revised Point D Termini on LA 1 south and north of Plaquemine, LA.

Figure 2
MRB South GBR: LA 1 to LA 30 Connector Identified 32 Preliminary Alternatives





SECTION 3
ROUND 1 SCREENING



MRB SOUTH GBR: LA 1 TO LA 30 CONNECTOR ENHANCED PLANNING INVESTIGATION

3.0 ROUND 1 SCREENING

3.1 ROUND 1 SCREENING METHODOLOGY

The prescreening stage removed geographic areas that would not reasonably support a new transportation corridor across the Mississippi River in the project area. Round 1 Screening was designed to analyze the 32 preliminary alternatives advanced from the prescreening to ensure that the alternatives met the project's preliminary purpose and need while minimizing the potential to adversely affect sensitive resources. Round 1 Screening was designed to be high-level, using the terms low, moderate, and high to describe potential effects rather than exact numerical values, which may not be known at this early stage, may not apply, or may be irrelevant depending on the evaluation factor. Potential corridors screened in Round 1 deemed not reasonable based on anticipated impacts were not advanced to more detailed screening in Round 2.

The evaluation factors the alternative corridors were screened against in Round 1 are those that could render an alternative corridor unreasonable when alternatives exist that do not have the same effects. These factors include:

- Bridge Constraints,
- Travel Demand,
- Known Section 4(f) Resources, and
- Protected Species Critical Habitats.

Generally, the assignment of low, moderate, or high value was based on the following:

Low	Impact not evident or expected
Moderate	Potentially impacted
High	Impact and mitigation expected

3.1.1 Bridge Constraints

Rough bridge concepts, including side span and high-level approach span lengths were developed for each of the alternative corridors. Based on the No Pier Zones identified in the Navigation Study (Prescreening), all Round 1 alternative corridors were expected to meet the reasonable maximum main span length of approximately 2,000 feet.

Assuming a cable-stayed main span, side-spans for the cable supported units were laid out based on a maximum reasonable span of 50% of the main span length. For preliminary proportioning of



cable-stayed bridges, this ratio of main span to side span length is common practice and results in economical and constructable bridges. For a 2,000-foot main span length, this results in a 1,000-foot side span length.

High-level approach spans for crossings such as these may be built with a variety of different bridge types. It was beyond the scope of the EPI to determine the optimal approach bridge type. Round 1 Screening approach spans were limited to a maximum individual span length of 500 feet. Historically, this span length has been designed and constructed in various configurations with comparable costs.

It is noted that, while technically feasible to place bridge piers near or within existing levees, it is most cost and schedule effective to avoid placing them too close to the mainline Mississippi River levee system. The approach roadways and their potential impacts to levees were not considered under this item during this round of screening. Preliminary alternatives from the C terminus on LA 1 would potentially impact the Mississippi River levee along the roadway approach which closely parallels the levee. These potential levee impacts associated with the C alternatives were considered in the final screening following discussions with landowners and industrial stakeholders.

Preliminary alternatives were assigned values of “Acceptable” or “Marginal” based on their ability to meet approximate maximum span lengths while avoiding crossing impacts to the levees and complying with No Pier Zone areas.

3.1.2 Travel Demand

Project-specific Travel Demand Models were developed for the EPI. Specifically, the 2019 base year model showing current conditions was developed to calibrate the model, the 2042 future year no build model was developed to determine expected traffic patterns in the future with no bridge, and the 2042 future year build model was developed to determine expected traffic patterns in the future with the new bridge (see the Macroscopic Travel Demand Model Memoranda in **Appendix F**).

Travel demand was provided in terms of average daily traffic (ADT) on the new bridge (non-tolled conditions) and the corresponding reduction in daily vehicle hours of travel (VHT) in the future year 2042 as compared to the conditions without the bridge in the same future year. The ADT is used as a measure of the demand for the new bridge (expected number of vehicles per day to travel on the new facility). The VHT is used as a measure of the level of congestion relief on nearby roadways and bridges derived from the introduction of the new bridge.

The overall reduction in VHT is a combination of I-10, LA 1, LA 30, total interstate, and total arterial VHT in the model footprint. Values of “Low,” “Moderate,” and “High” were assigned in accordance with estimates prepared from the project-specific Travel Demand Models using quartiles to define the range of values. “Low” and “High” values represent the lowest and highest quartiles, while the “Moderate” value reflects the two central quartiles.

Additionally, the traffic team identified any reductions in VHT specific to I-10 and LA 1 for each of the alternative routes to assess congestion relief benefits to I-10 and LA 1 within the study area. Negative VHT values represent a reduction in time traveled. Values for VHT specific to I-10 and LA 1 were expressed as “Low,” “Moderate,” and “High” as defined using the same quartile methodology used for overall VHT. LA 30 is not singularly represented in the screening table relative to VHT reduction because capacity improvements are scheduled to occur on LA 30 prior to the design year of the proposed new bridge. Adverse impacts to LA 30 will be evaluated during the Environmental Stage.

3.1.3 Known Section 4(f) Resources

A Section 4(f) resource refers to a resource afforded special consideration under Section 4(f) of the Department of Transportation Act of 1966 (DOTA). Such resources include publicly owned parks, recreation areas, wildlife, and waterfowl refuges of national, state, or local significance, and lands of a historic site of national, state, or local significance. Preliminary alternatives for which adverse impact to these resources is expected were considered unreasonable and eliminated from further evaluation. Preliminary alternatives were assigned a value of “No” for “No Impact” or “Yes” for “Potential Impact” based on the potential to impact a known Section 4(f) resource.¹

3.1.4 Protected Species Critical Habitat

The Endangered Species Act of 1973 (16 USC 35 §1531 *et seq.*) protects species listed as endangered, threatened, or candidates for listing as well as designated habitats for specific protected species. Designated critical habitats are officially delineated by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service as areas which provide species-specific constituent (biological or physical) elements essential to the conservation of the species. Preliminary alternatives for which adverse impact to critical habitat is unavoidable were to be eliminated from further evaluation provided alternatives exist that do not affect critical habitat. Preliminary alternatives were assigned a value of “No” for “No Impact” or “Yes” for “Potential Impact” based on the potential to impact known critical habitat.

3.2 ROUND 1 SCREENING RESULTS

The results of the Round 1 Screening are shown in **Table 3-1**. All values are color-coded to reflect the level of benefit the preliminary alternative would be expected to generate with respect to a particular evaluation factor. Green represents a high benefit, yellow a medium benefit, and red no or low benefit. Preliminary Alternatives C-7-IV, C-8-IV, C-9-IV, F-15-VI, F-16-VII, F-17-VII, G-18-VII, and L-27-X, shown highlighted in pink on Table 3-1, were eliminated from further consideration due to low expected ADT. Low ADT implies that drivers would not choose to use

¹ The locations of known archaeological sites are protected by the Louisiana Division of Archaeology. This review included only publicly available information; therefore, archaeological sites were not included.

the proposed bridge in a particular alternative's location. Preliminary Alternatives D-10-IV, K-24-VIII, M-24-VIII, and M-26-X, shown highlighted in blue on Table 3-1, were eliminated from further consideration due to the potential of impacts to Section 4(f) resources.

3.2.1 Bridge Constraints

Preliminary alternatives were noted as "marginal" if they slightly exceeded the approximate reasonable span lengths. At this stage of the analysis, no alternatives were determined to pose impacts to the levee system at crossing locations while remaining within defined span length limits; therefore, bridge constraints did not eliminate any preliminary alternatives.

3.2.2 Travel Demand

A low value for ADT on the new bridge in 2042 demonstrates lower anticipated use and is of low benefit when compared to preliminary alternatives with higher ADT. A low value in the ADT for the MRB Travel Demand factor resulted in the elimination of that preliminary alternative from further evaluation. Congestion relief criteria (VHT) provides information that is useful for comparative purposes; however, VHT was not used as a basis for elimination. Preliminary alternatives eliminated due to low ADT are highlighted in pink.

3.2.3 Known Section 4(f) Resources

Section 4(f) of the DOTA requires justification for adverse impact to any Section 4(f) resource, even temporarily, when alternatives exist that do not adversely affect Section 4(f) resources. While the potential exists for previously unknown or archaeological Section 4(f) resources to be revealed as preliminary alternatives advance and more detailed analyses are undertaken, those preliminary alternatives with demonstrable potential to affect known Section 4(f) resources were eliminated from further evaluation. Preliminary alternatives eliminated due to potential Section 4(f) impacts are highlighted in blue.

3.2.4 Protected Species Critical Habitat

No critical habitat was identified in the vicinity of any of the 32 preliminary alternatives; therefore, no preliminary alternatives were affected by this evaluation factor.

3.2.5 Summary

As reflected in **Table 3-1**, 20 of the 32 preliminary alternatives carried into Round 1 screening were recommended to advance into Round 2 screening. All preliminary alternatives eliminated from further consideration are highlighted in pink or blue depending on the evaluation factor or reason for elimination. The remaining unhighlighted preliminary alternatives were recommended to advance to the next screening round. See the table notes section of Table 3-1 for ranges used to establish relative benefit, further explanation for alternative eliminations, and other clarifying information. **Figure 3** presents a geographic representation of the Round 1 screening process, showing eliminated preliminary alternatives in red and providing some bridge detail for preliminary alternatives recommended to move into Round 2. **Appendix G** contains a table providing back-up data in support of **Table 3-1**.

TABLE 3-1
MRB SOUTH GBR: LA 1 TO LA 30 CONNECTOR (SPN H.013284)
ROUND 1 CORRIDOR ALTERNATIVE SCREENING TABLE

ALTERNATIVE	BRIDGE CONSTRAINTS	MRB TRAVEL DEMAND		I-10 CONGESTION RELIEF	LA 1 CONGESTION RELIEF	KNOWN SECTION 4(f) RESOURCE	PROTECTED SPECIES CRITICAL HABITAT
		ADT	VHT	VHT	VHT		
A-1-I	M	M	M	H	L	No	No
A-1-II ^{FS-1}	M	M	M	M	L	No	No
B-2-I	A	M	M	H	M	No	No
B-2-II	A	M	M	H	M	No	No
C-3-I	A	H	M	H	M	No	No
C-3-II ^{FS-2}	A	H	H	H	M	No	No
C-4-I	A	M	H	H	H	No	No
C-5-II	A	H	H	H	H	No	No
C-6-III	A	H	H	H	H	No	No
C-7-IV	A	L	H	M	M	No	No
C-8-IV	A	L	H	M	M	No	No
C-9-IV ^{FS-4}	M	L	H	M	M	No	No
D-10-IV ^{FS-5}	A	H	M	M	H	Yes	No
E-11-IV	A	H	M	M	H	No	No
F-12-IV ^{FS-3}	A	M	M	M	H	No	No
F-13-IV ^{FS-3}	A	H	H	M	H	No	No
F-14-V	A	M	M	M	H	No	No
F-15-VI	A	L	M	M	M	No	No
F-16-VII	A	L	M	M	M	No	No
F-17-VII	A	L	L	L	M	No	No
G-18-VII	A	L	M	L	M	No	No
H-19-VII	M	M	L	M	L	No	No
I-20-VII	A	M	L	M	M	No	No
J-21-VII	A	M	L	M	M	No	No
K-22-VII	A	M	L	M	M	No	No
K-23-VII	A	M	L	M	M	No	No
K-24-VIII	A	M	L	L	L	Yes	No
L-27-X	A	L	L	L	L	No	No
M-24-VIII	A	M	M	L	L	Yes	No
M-25-IX	A	M	M	L	L	No	No
M-26-X	A	M	M	L	L	Yes	No
N-28-X	A	H	M	L	M	No	No

TABLE NOTES:

FS-0 Represents one of the five corridors from the 2016 Feasibility Study

Data Value Highlights: **Green = most benefit**, **Yellow = moderate benefit**, **Red = least benefit**

Alternative Highlights:

Pink = eliminated due to low ADT

Blue = eliminated due to potential Section 4(f) resource impact

Not highlighted = recommended to advance

Bridge Constraints

M = Marginal - main span length slightly exceeds approximate reasonable length of 2,000-foot

A = Acceptable - span lengths are reasonable with no impacts to the levee system

MRB Travel Demand (all MRB, I-10, LA 1, and LA 30 are Year 2042 traffic):

Average Daily Traffic (ADT)

Low (L) = 24,200-29,900

Moderate (M) = 30,000-35,400

High (H) = >35,500

Vehicle Hours of Travel (VHT) (“-“is a reduction):

L = <-0.90%

M = -0.91% to -1.19%

H = -1.20% to -1.74%

I-10 Congestion Relief (“-“is a reduction):

VHT

L = -1.52% to -3.39%

M = -3.40% to -4.99%

H = >-5.00%

LA 1 Congestion Relief (“-“ is a reduction):

VHT

L = -4.60% to -7.89%

M = -7.90% to -12.04 %

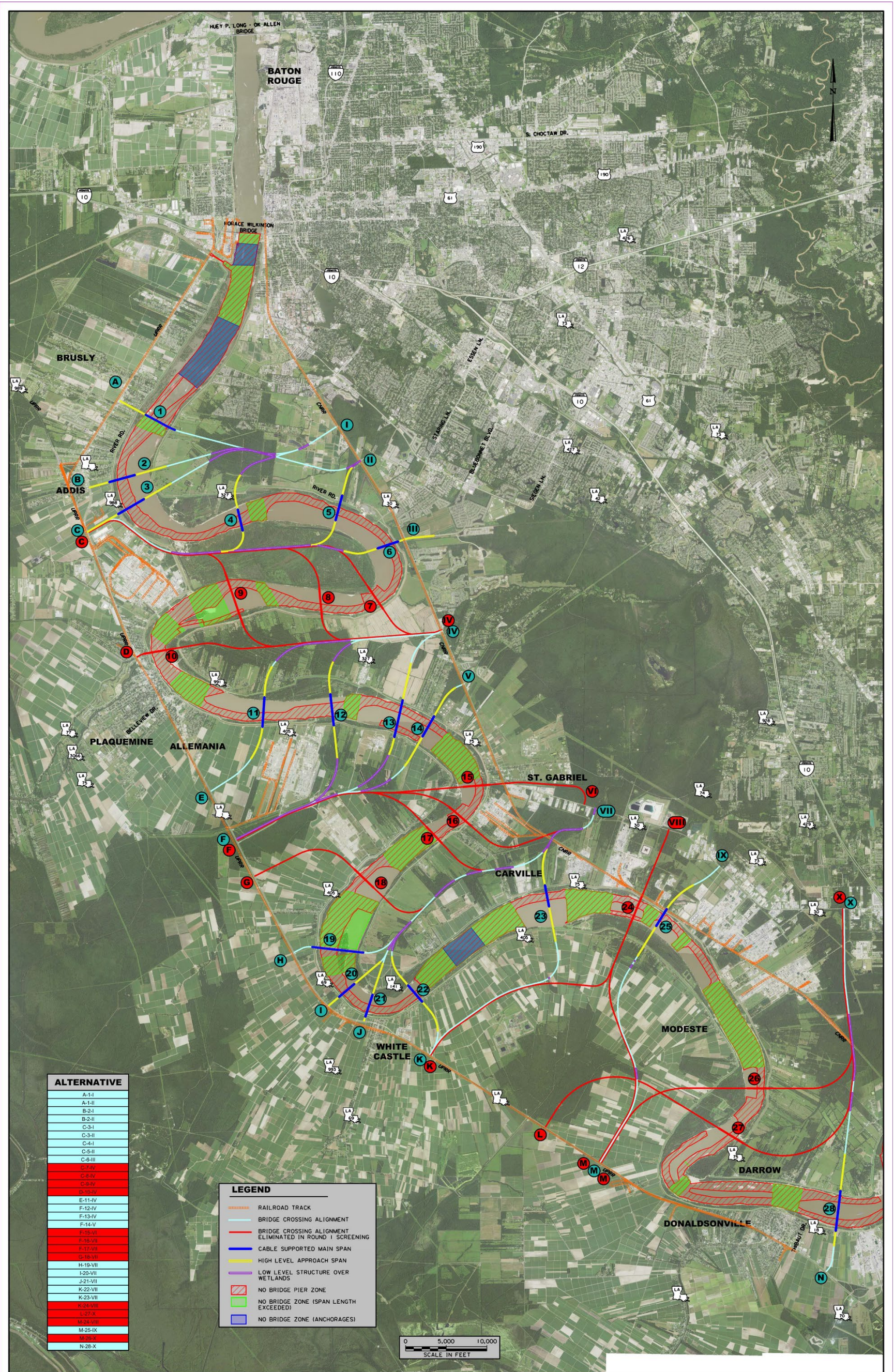
H = >-12.05%

Known Section 4(f) Properties and Protected Species Critical Habitat

No = No Impact Known

Yes = Potentially Impacted

Figure 3
MRB South GBR: LA 1 to LA 30 Connector Round 1 Screening Results





SECTION 4
SUPPLEMENTAL ROUND 1:
BRIDGE SCREENING



MRB SOUTH GBR: LA 1 TO LA 30 CONNECTOR ENHANCED PLANNING INVESTIGATION

4.0 SUPPLEMENTAL ROUND 1 SCREENING

4.1 BRIDGE SCREENING METHODOLOGY AND SCREENING RESULTS

Navigation and bridge main span length considerations were addressed in the prescreening phase; however, by design, it was done so prior to the development of specific alternative corridors. Additional bridge span considerations were addressed in the Round 1 Screening related to side spans, approach spans, and levee spans. Subsequent to Round 1 Screening but prior to completion of the data analysis and public involvement, additional work was performed to further refine and evaluate alternative-specific considerations for each potential bridge river crossing location. Constructability challenges were summarized for each of the crossings. A series of stakeholder meetings were then held with various Mississippi River stakeholder groups to gather comments related to the bridges' potential impacts to deep- and shallow-draft vessel traffic, levee systems, and other projects occurring on the Mississippi River. Stakeholders meetings were held with:

- USCG – Bridge Section,
- USACE, New Orleans District,
 - Completed Works Section,
 - Geotechnical Branch,
 - Mississippi River Navigation Projects Section,
 - Regulatory Section,
 - Engineering Division, Civil Section, and
 - Navigation Section
- Federal Pilots of Louisiana,
- Maritime Navigation Safety Association,
- American Waterways Operations,
- NOBRA Pilots,
- Big River Coalition,
- Louisiana Maritime Association,
- Pontchartrain Levee District, and
- Atchafalaya Basin Levee District



4.2 BRIDGE CONSTRUCTABILITY

Bridge layouts and locations were assessed for unique constraints related to access for construction equipment and materials, interaction with river traffic during construction, the need for temporary works, and the complexity of the steps necessary to successfully construct the cable-stayed main span units. This evaluation accounted for potential challenges in constructing the low-level bridges over wetlands and stakeholder facilities, the high-level approach bridges leading up to the main span, and the cable-stayed main span unit itself. These potential issues were categorized overall for each crossing as “Minor,” “Moderate,” or “Major.” These categories are subjective and are a relative measure of the complexity of and risk to construction amongst the various crossings. The evaluation of constructability issues was based on typical construction methods for bridges of this type, size, and location.

Bridges deemed to have “Minor” constructability issues generally had fewer or no piers located in the main waterway, required relatively lesser amounts of temporary works such as access trestles or causeways, were more easily accessible for construction equipment and the supply of materials, and featured span lengths and arrangements that were well within typical spans successfully constructed in the United States. “Major” constructability issues included the need for significant amounts of temporary access trestles, a larger number of piers within the waterway, main pylon foundations located within the waterway and especially if exposed to potential impact from errant river traffic, and uncommon or complex span arrangements such as 3-pylon cable-stayed units. Bridge configurations in preliminary alternatives with expected “Moderate” constructability issues were comparatively more complex than preliminary alternatives with “Minor” issues, but less complex than preliminary alternative bridge configurations with “Major” constructability issues.

Constructability issues are an important consideration that represent risks to the project cost and schedule. However, any major river crossing of the large size and long span lengths considered in this report will encounter these risks. Therefore, these values are most useful when considered on a relative basis and are not a threshold issue for the overall success of the project.

4.3 IMPACTS TO NAVIGATION

The bridge pier layouts were originally developed accounting for the “No Bridge Zones (Anchorages)” and “No Pier Zones” determined by the high-level navigation study discussed previously. However, depending on the location of the bridge and the river’s features at that location, alignments and their river pier layouts would be expected to present varying levels of navigation challenges to river traffic. Although permissible, bridge piers near river bends or where the navigation channel crosses from one side of the river to the other may present hindrances to vessel navigation. For these reasons, consultations with the USACE and deep- and shallow-draft vessel river pilots were engaged to assess impacts to navigation.

Navigation stakeholder meetings were held in between Round 1 and Round 2 screening. Feedback from these stakeholders is critical for the project to be granted a USCG Bridge Permit.



Therefore impacts to navigation are a threshold issue that could eliminate some preliminary alternatives before the Round 2 evaluation should any of the bridge pier layouts prove to be a concern to navigation stakeholders.

Based on interaction with the USACE and river pilots on alignment and pier layouts for the 20 preliminary alternatives, impacts to navigation were assigned values of “Minor,” “Moderate,” or “Major.” Crossings with “Minor” impacts generally featured fewer piers or pylons located within the waterway and were located in regions of the river where pilots could safely navigate using less complex maneuvers and relatively lower risk at a variety of water elevations. Bridge layouts designated as having “Major” impact to navigation had piers or pylons that, while placed to avoid the no pier zones, still represented a significant risk to river traffic. These were often located in regions coming into or out of river bends where large barge groups needed additional space to turn safely and align themselves to clear the bend. Bridge and pier configurations in preliminary alternatives with expected “Moderate” impacts to navigation had comparatively more piers or pylons in the river and were expected to require more complex navigation maneuvers than preliminary alternatives with “Minor” issues, but fewer piers or pylons in the river or would require less complex navigation maneuvers than preliminary alternative bridge configurations with “Major” impacts to navigation.

During these meetings, stakeholders recommended modifications to the pier placements for Crossings 3, 4, 5, 6, 14, 19, 22, 23, and 25. These modifications were intended to reduce impacts to navigation while remaining outside of the No Pier Zones and maintaining the approximate main span lengths established during the prescreening. To the extent possible, modifications were subsequently made in accordance with the recommendations. The navigation stakeholders were then solicited for additional comments on the modified bridge pier placements.

Following the evaluation of those additional comments, any bridge layouts determined to have “Major” potential impact to navigation were eliminated. Bridge layouts with “Minor” or “Moderate” potential navigation impacts were advanced to the Round 2 screening.

4.4 IMPACTS TO LEVEES

Stakeholder meetings were held with the USACE and Levee Districts to gather feedback and information about how the proposed bridge crossing alternatives could affect levees and submerged channelization structures, such as dikes and revetments. As a result of these discussions, it was determined that bridge piers would be required to clear any dikes but would be allowed to penetrate revetments, provided that certain repairs were made to maintain the revetments’ ability to control bank erosion. After further evaluation, it was determined that all bridge layouts provided minimum clearances to dike structures, and none significantly impacted the revetments.

Similarly, comments were gathered from USACE and the Levee Districts regarding placement of piers on or near the levees. It was determined that foundation options were limited for piers directly impacting the levees and that foundations needed to meet requirements for maximum allowable



depth if located nearby. Determining whether certain pier locations would meet these requirements depends upon a detailed geotechnical analysis, which is beyond the scope of this EPI. Therefore, piers for the high-level approach bridges were located to provide a minimum 450-foot clear span over any levees to avoid impacts while providing a reasonably constructable span layout.

Based on these discussions and associated decision to layout spans to avoid impacts to the levees, all crossings were designed as “Minor” for this criterion. More detailed analysis to determine the best balance between pier locations, foundation depths, and maximum spans over the levees will be necessary during future refinements to the bridge design.

4.5 ALTERNATIVES ADVANCED TO ROUND 2 SCREENING

Table 4-1 presents the screening results for bridge-specific criteria. Ten preliminary alternatives (A-1-I, A-1-II, B-2-I, B-2-II, C-3-I, C-3-II, C-4-I, I-20-VII, J-21-VII, and N-28-X) were determined to result in major impacts to navigation, even after several were modified in response to navigation stakeholder comments. These 10 preliminary alternatives were eliminated and were not advanced into Round 2 screening. Conceptual line and grade drawings of the river crossings for the remaining 10 alternatives (C-5-II, C-6-III, E-11-IV, F-12-IV, F-13-IV, F-14-V, H-19-VII, K-22-VII, K-23-VII, and M-25-IX) advanced into the Round 2 Screening are included in **Appendix H**.

**TABLE 4-1
MRB SOUTH GBR: LA 1 TO LA 30 CONNECTOR (SPN H.013284)
SUPPLEMENTAL SCREENING - BRIDGE CONSIDERATIONS**

ALTERNATIVE	APPROX. MAIN SPAN LENGTH ⁰ [in feet (ft)]	BRIDGE CONCEPT	CONSTRUCTABILITY ISSUES ¹	IMPACTS TO NAVIGATION ²	IMPACTS TO LEVEES ³
A-1-I	2,100 ft		Moderate	Major	Minor
A-1-II	2,100 ft		Moderate	Major	Minor
B-2-I	1,700 ft		Moderate	Major	Minor
B-2-II	1,700 ft		Moderate	Major	Minor
C-3-I	2,000 ft (x2)		Major	Major	Minor
C-3-II	2,000 ft (x2)		Major	Major	Minor
C-4-I	2,100 ft		Moderate	Major	Minor
C-5-II	2,100 ft		Moderate	Minor	Minor
C-6-III	2,000 ft		Moderate	Moderate	Minor
E-11-IV	1,900 ft		Minor	Minor	Minor
F-12-IV	2,000 ft		Moderate	Minor	Minor
F-13-IV	1,600 ft (x2)		Major	Moderate	Minor
F-14-V	1,600 ft (x2)		Major	Moderate	Minor
H-19-VII	2,100 ft, 1,000 ft		Moderate	Minor	Minor
I-20-VII	1,300 ft		Moderate	Major	Minor
J-21-VII	1,500 ft		Moderate	Major	Minor
K-22-VII	1,900 ft		Minor	Minor	Minor
K-23-VII	2,100 ft		Moderate	Minor	Minor
M-25-IX	2,100 ft		Moderate	Minor	Minor
N-28-X	1,150 ft, 1,400 ft		Major	Major	Minor

TABLE NOTES:

⁰Main span lengths are the middle length for a typical three span unit. Four span units are indicated with (x2) and list the two interior span lengths. Two separate three-span units with a shared transition pier will have the middle span length listed for each unit.

¹Constructability Issues are Minor, Moderate, or Major (relative to the alternatives listed) and consider the number of piers in the water, complexity of span arrangements, temporary access required, and exposure of temporary access to navigation traffic.

²Impacts to Navigation are Minor, Moderate, or Major and consider that some pier layouts may be located such that it is difficult to navigate (bends, central channel crossings). A value of Major means that the pier locations present an impediment or risk to navigation that cannot be feasibly or reasonably overcome.

³Impacts to Levees are Minor, Moderate or Major and consider that some pier layouts may be at the toe of levees. Construction will adhere to guidelines established by the USACE and local levee districts to ensure that levees are not adversely affected during construction (such as restrictions on pile driving at specified river stages).



SECTION 5
ROUND 2 SCREENING:
DATA COLLECTION AND
EVALUATION



5.0 ROUND 2 SCREENING: DATA COLLECTION AND EVALUATION

5.1 ROUND 2 – DATA COLLECTION METHODOLOGY

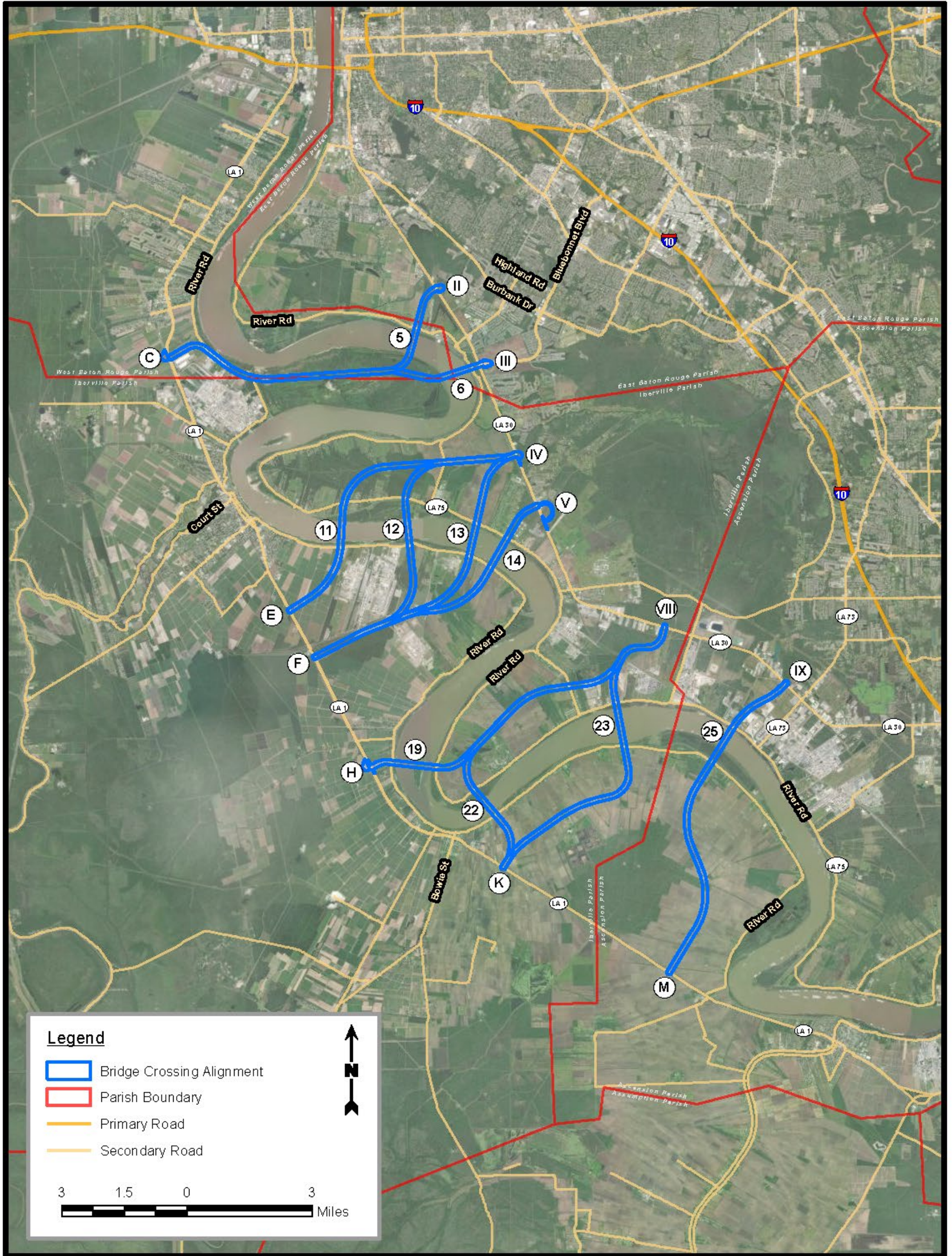
The Round 2 screening was developed to pare down the number of possible alternatives to the most feasible alternatives that best meet the project's purpose and need while minimizing adverse effects on other resources. The remaining 10 preliminary alternatives advanced into Round 2 were screened with more detail relative to the type and severity of effects associated with the use of a corridor for the transportation improvement.

The evaluation factors the alternatives were screened against in Round 2 include:

- Travel Demand/Traffic,
- Right-of-Way (ROW),
- Bridge Constructability,
- Construction Cost,
- Tolling/Net Present Value,
- Pipelines and Transmission Lines, and
- Environmental Inventory Considerations,
 - LDEQ Permitted Facilities,
 - Protected Species,
 - Presence of Essential Fish Habitat (EFH),
 - Wetlands, and
 - Environmental Justice (EJ) Populations.

To initiate the Round 2 screening, a ROW buffer was added in the GIS around each of the remaining preliminary alternatives to establish a preliminary limit of expected impact. The ROW buffer width was established as 300 feet, 150 feet on either side of an already buffered 300 feet of roadway, to accommodate shifting of the mainline during the design phase for a total screening buffer width of 600 feet. Conceptual interchange layouts were also put into the GIS to assess potential ROW impacts at LA 1 and LA 30 that could extend beyond the 300-foot buffer, due to interchange considerations. **Figure 4** is a geographic representation of the 10 preliminary alternative corridors with their respective screening buffers and interchange concepts.

Figure 4
MRB South GBR: LA 1 to LA 30 Connector Round 2 Preliminary Alternatives with Screening Buffers



Base map comprised of ESRI's World Imagery exported 7/05/2022.



Screening of the remaining preliminary alternatives relative to each evaluation factor is discussed below.

5.1.1 Travel Demand/Traffic

A Level 1 Toll Study was performed to determine the impacts of tolling on traffic patterns for each of the remaining preliminary alternatives. Travel demand projections taken as ADT on the new bridge in 2042, from Round 1, were revised using forecast estimates from the Level 1 Toll Study. The Level 1 Toll Study, which is included in **Appendix F**, accounts for changes to travel patterns based on the estimated toll amount (cost) and the estimated travel time savings, also known as traffic and revenue (T&R) analysis. Revised ADT for each alternative (tolled) in 2042 was calculated from the T&R model. Revenue estimates were provided for 30, 40, and 50-year periods after the opening date (estimated as 2031).

The T&R model estimates general usage and associated traffic patterns, but it does not allow for detailed analysis of congestion and potential remediation strategies. Therefore, Mesoscopic Traffic Models, which allow for such analyses and which were based on the outputs from the T&R model, were developed. The Mesoscopic Travel Models were used to determine the level of traffic impacts associated with each tolled alignment. Traffic impacts were measured in terms of change in AM and PM peak period VHT in comparison with the no build alternative. The methodology and findings of the Mesoscopic Models were published on the project's website and are included in **Appendix F**. Values of "Low," "Moderate," and "High" were assigned in accordance with estimates prepared from the Level 1 Toll Study and Mesoscopic Models using quartiles to define the range of values. "Low" and "High" values represent the three lowest and three highest VHTs, while the "Moderate" value reflects the four middle VHT values.

5.1.2 Right-Of-Way (ROW)

ROW analysis included acreage of presumed ROW to be acquired and direct impacts to structures within the 600-foot buffer. Values of "Low," "Moderate," and "High" were assigned for ROW acreage in accord with estimates prepared from the project GIS using quartiles to define the range of values. "Low" and "High" values represent the lowest and highest quartiles, while the "Moderate" value reflects the two central quartiles.

Structures counted within the 600-foot buffer and interchange areas for each preliminary alternative were categorized by the following types:

- R – residence
- B – business
- P – public
- I – industrial
- O – other (includes garages, sheds, barns, shelters, stables, silos, cell towers, lift stations, etc.)



5.1.3 Bridge Constructability

As discussed in the Round 1 Supplemental bridge screening, bridge layouts and locations were assessed for unique constraints related to access for construction equipment and materials, interaction with river traffic during construction, and the need for temporary works; these potential issues were noted as “Minor,” “Moderate,” or “Major.” Since constructability issues would not eliminate a preliminary alternative, the assessment of “Minor,” “Moderate,” or “Major” were carried forward into Round 2. Constructability considerations relating to elevated structures needed to span wetlands, pipe racks, and other obstacles were also factored into the Round 2 analysis. Ultimately, each of these considerations were consistent with the assigned values of “Minor,” “Moderate,” or “Major” carried forward and no values were changed due to this additional analysis.

5.1.4 Construction Cost

The preliminary estimated construction project cost reflects the estimated costs to construct the 6-lane bridge and roadway, the estimated cost of wetland mitigation including the buffer areas, and the estimated cost to acquire both ROW acreage and structures including the buffer area. The preliminary construction cost does not include engineering design, operations and maintenance costs, financing, environmental clearance, utility relocation, structure relocation, and other mitigation, such as noise mitigation. Preliminary construction costs for each of the alternative corridors were based on the design criteria and the unique bridge span layouts at each crossing. Bridge structure costs consider main span lengths (costs are generally higher for longer spans), the number of piers/foundations in the water and located on land, the need to consider vessel impact at water piers, location-specific access and constructability challenges, and span layouts for approach bridges. Preliminary construction costs reflect a 6-lane bridge and 6-lane roadway and do not include the cost of the 6-lane tolling gantry, as this is included in the net present value measurement below.

5.1.5 Tolling And Net Present Value

The revenue stream was summarized with a net present value that would be a second measure of effectiveness. Net present value is the value of the entire toll revenue stream over a defined period (30, 40, or 50 years) in current dollars. It accounts for the initial capital investment (6-lane tolling gantry), operating, and maintenance costs.

5.1.6 Pipelines And Transmission Lines

Pipelines and transmission lines are presented as total linear feet within the preliminary alternative corridor as derived from the project GIS.

5.1.7 Environmental Inventory Considerations

For the evaluation categories of LDEQ Permitted Facilities, Protected Species, Essential Fish Habitat (EFH), Wetlands, and EJ Populations, the number of each or total acreage within a particular alternative was identified using the project GIS and input as a numerical value.



5.1.7.1 LDEQ Permitted Facilities

In Round 2 screening, any impact to LDEQ Permitted Facilities was either to facilities occupying less than 10 acres or results from elevating over existing infrastructure or ROW infringement on property owned by a specific facility.

5.1.7.2 Protected Species

Protected species are those afforded protection under various environmental laws, including, but not limited to, the Endangered Species Act, Migratory Bird Treaty Act, and Bald and Golden Eagle Protection Act. Based on data from both the U.S. Fish and Wildlife Service (USFWS) and Louisiana Department of Wildlife and Fisheries, protected species known to inhabit a potentially affected habitat, regardless of the lack of critical habitat designation, were enumerated for all preliminary alternatives.

5.1.7.3 Essential Fish Habitat (EFH)

The designation of EFH is bestowed on waters and substrate necessary to various species of fish for spawning, breeding, feeding, or growth to maturity (Magnuson-Stevens Fishery Conservation and Management Act). Acreage of EFH was determined from the National Oceanic and Atmospheric Administration's EFH Mapper database.

5.1.7.4 Wetlands

Wetland acreages were determined from the USFWS National Wetlands Inventory data in the GIS database, quantified within the 600-foot buffers, and under the assumption that all roadway and bridge sections would be at-grade (or on the ground surface).

5.1.7.5 Environmental Justice (EJ) Communities

The number of potentially affected EJ communities was defined for the project area using U.S. Census Bureau demographic data and environmental indices from the U.S. Environmental Protection Agency's (USEPA) EJSCREEN Environmental Justice screening and mapping tool. Percentiles generated through this tool are based on USEPA's demographic index, population count by block group, and specific environmental indices. The Round 2 screening used USEPA's EJSCREEN EJ environmental index for traffic proximity and volume, which is a combination of USEPA's traffic indicator and the minority and low-income population of the census block group. Any affected census block groups showing possible EJ concerns were counted. **Appendix I** contains EJSCREEN results for locations where reports were generated, many areas were too sparsely populated to generate results without inserting buffers of one half mile or greater.



5.2 ROUND 2 SCREENING RESULTS

Figure 4 shows the ten preliminary alternatives evaluated in the Round 2 screening. Data obtained for the Round 2 evaluation criteria, including data carried forward from earlier stages of screening is presented in **Table 5-1**. **Appendix J** contains a table with the back-up detail for **Table 5-1**.

Table 5-1 is color-coded to reflect the level of impact (benefit or adverse) expected from each of the preliminary alternatives (each alternative shown as one row of the table) showed with respect to each evaluation factor (shown in the table's columns). Green represents the most benefit or least adverse impact and was assigned to the three alternatives with the most benefit expected for each evaluation factor. Yellow represents a medium benefit or medium impact and was assigned to the middle four alternatives. Red represents the least benefit or most adverse impacts expected and was assigned to the bottom three alternatives.

The relative benefit of each alternative should be compared row-to-row considering all columns of evaluation factors. The row with the most green-colored blocks or least red-colored blocks should indicate the overall most beneficial alternative. For example, the row for Preliminary Alternative E-11-IV scores as one of the three most beneficial alternatives for seven of the evaluation factors and scores as moderately beneficial for the remaining 4 evaluation factors; however, the row for Preliminary Alternative H-19-VII scores as one of the three least beneficial alternatives for seven of the evaluation factors and scores as moderately beneficial for the remaining 4 evaluation factors. Therefore, according to the factors evaluated, Preliminary Alternative E-11-IV is expected to be more beneficial than Preliminary Alternative H-19-VII.

To compare the alternatives by each evaluation factor, acres of wetlands for example, identify the Wetlands column on the table, note the three alternatives with the highest acres of wetlands are colored red, while the three alternatives with the lowest acreage of wetlands are colored green.

Some evaluation criteria, which are included for reference but were not directly compared for relative benefit or impact, are not color-coded. This table, along with stakeholder and public input, was used to develop a ranking of the alternatives to identify the most feasible alternatives to advance. The ranking of the remaining 10 preliminary alternatives is presented in Section 6 of this EPI document.

5.2.1 Stakeholder and Public Input

Approximately 23 stakeholder meetings were held throughout the multiple stages of screening. Several additional stakeholder meetings were held during Round 2 to solicit additional feedback on the remaining preliminary alternatives. Those meetings made us of **Table 5-1** and other information developed for the public meetings.

Public input was solicited through six public information meetings. Along with various other exhibits, **Table 5-1** was used to inform the public concerning the relative impacts and benefits of the remaining preliminary alternatives.



The six public meetings were open house style meetings held in the potentially affected parishes on both sides of the Mississippi River. Each meeting presented the same information, consisting of: a recorded PowerPoint presentation; exhibits related to bridge type and layout, roadway concepts, traffic details, and potential impacts; a GIS station for viewing areas of interest in relation to preliminary alternatives; and opportunities to provide feedback. Project team members were available at exhibit stations to present details and answer questions. Public input could be provided via the online survey available at multiple stations during the meeting, comment forms, or via the project website or call-in line.

A summary of stakeholder and public outreach and engagement conducted during the EPI is provided as **Appendix K**.

**TABLE 5-1
MRB SOUTH GBR: LA 1 TO LA 30 CONNECTOR (SPN H.013284)
ROUND 2 PRELIMINARY ALTERNATIVES SCREENING**

PRELIMINARY ALTERNATIVES	APPROX. LENGTH IN MILES	NUMBER OF VEHICLES PER DAY ON TOLLED BRIDGE IN 2042 (ADT)	CHANGE IN AREA-WIDE TOTAL VEHICLE HOURS IN 2042 (VHT)		CHANGE IN I-10 TOTAL VEHICLE HOURS IN 2042 (LA 415 to I-10/12) (VHT)		PROPERTY IMPACTS ¹					BRIDGE/ CONSTRUCT- ABILITY ISSUES ^{2,3}	PRELIMINARY ESTIMATED COST TO CONSTRUCT ⁴ (millions)	PRELIMINARY ESTIMATED 50-YEAR TOLL NET PRESENT VALUE ⁵ (millions)	ENVIRONMENTAL ^{6,7,8}				
			AM	PM	AM	PM	Acres	Structures							PIPELINES/ POWER LINES (linear feet)	LDEQ PERMITTED FACILITIES	ESSENTIAL FISH HABITAT PRESENT (acres)	WETLANDS (acres)	
								R	B	P	I								O
C-5-II	8.0	20,500	-1.36%	-2.7%	1.0%	-8.0%	M	0	1	0	1	0	L	MODERATE	\$ 1,596	\$206	1	0	H
C-6-III	7.8	23,100	-1.51%	-2.4%	-6.1%	-12.9%	M	0	1	0	1	0	L	MODERATE	\$ 1,577	\$233	1	0	H
E-11-IV	7.7	24,600	-0.08%	-1.1%	2.7%	2.6%	L	14	3	0	0	10	L	MINOR	\$ 1,300	\$262	0	0	L
F-12-IV	8.3	23,400	-0.23%	-1.6%	2.6%	8.1%	H	12	3	0	4	9	H	MODERATE	\$ 1,554	\$251	1	0	H
F-13-IV	7.6	25,100	0.19%	-2.0%	2.9%	4.1%	L	14	3	0	5	10	M	MAJOR	\$ 1,430	\$269	1	0	M
F-14-V	6.9	23,300	-0.16%	-1.4%	-1.5%	3.9%	L	7	0	0	6	5	H	MAJOR	\$ 1,409	\$250	2	0	M
H-19-VII	8.5	22,200	0.35%	0.7%	2.0%	17.2%	H	0	0	0	0	3	H	MODERATE	\$ 1,940	\$240	0	0	M
K-22-VII	9.1	21,600	0.83%	1.7%	7.3%	13.3%	H	2	0	0	0	1	M	MINOR	\$ 1,399	\$246	0	0	M
K-23-VII	8.2	23,200	0.34%	1.7%	3.4%	21.2%	M	0	0	0	0	5	M	MODERATE	\$ 1,364	\$263	0	0	L
M-25-IX	8.1	24,500	4.18%	2.2%	3.7%	10.5%	M	5	0	0	0	2	M	MODERATE	\$ 1,293	\$281	1	30	L

TABLE NOTES:

ADT – Average Daily Traffic, VHT – Vehicle Hours traveled, H – High, M-Moderate, L – Low, R-Residential, B-Business, P-Public, I-Industrial, O-Other, NPV – Net Present Value, LDEQ – Louisiana Department of Environmental Quality.

Green represents the three Preliminary Alternatives with highest benefit or lowest adverse impact, Yellow is the four Preliminary Alternatives of moderate benefit or moderate adverse impact, Red is the three Preliminary Alternatives with the least benefit or greatest adverse impacts.

2042 Travel Demand (with toll):

ADT:

L = < 22,425
M = 22,426 to 24,224
H = > 24,225

NPV (in millions):

L = < \$242
M = \$243 to \$262
H = > \$263

Travel time change/ VHT AM:

L = 0.35% to 4.18%
M = -0.2% to 0.34%
H = -1.51% to 0.21%

Travel time change/ VHT PM:

L = 1.5% to 2.2%
M = -1.8% to 1.4%
H = -2.7% to -1.9%

I-10 travel time change/ VHT AM:

L = 3.3% to 7.3%
M = 1.4% to 3.2%
H = -6.1% to 1.3%

I-10 travel time change/ VHT PM:

L = 12.6% to 21.2%
M = 3.0% to 12.5%
H = -12.9% to 2.9%

Other Values:

Acres:

L = <580
M = 581 to 617
H = >618

Pipeline/Power Lines (ft):

L = <3,256
M = 3,257 to 10,374
H = >10,375

Wetlands (acres):

L = <194
M = 195 to 345
H = >346

Preliminary Estimated Cost to Construct (in millions):

L = <\$1,359
M = \$1,360 to \$1,554
H = >\$1,555

FOOTNOTES:

¹Acres are for mainline and interchange areas combined using a 300-foot buffer outside a 300-foot footprint for approximately 600 feet of ROW. This overall area also applies to pipeline/power line and wetland totals. Number of structures is shown.

²Constructability Issues are minor, moderate, or major (relative to the alternatives listed) and consider the number of piers in the water, complexity of span arrangements, temporary access required, and exposure of temporary access to navigation traffic.

³Impacts to Navigation were addressed in Table 4-1, ten alternatives presented with high impacts to navigation and were removed from Round 2 Screening.

⁴Preliminary construction cost reflects the estimated cost to construct the bridge and roadway, estimated cost to acquire ROW acreage and structures, including the buffered areas, and estimated wetland mitigation cost, also including the buffered areas.

The cost is based on 2022 dollars with a 2% inflation rate through 2030, representing either the construction midpoint date under a public private partnership/design build or a design-bid-build letting date.

Cost does not reflect engineering design, operation and maintenance costs, financing cost, construction project management, noise mitigation, structure relocation, or utility relocation.

⁵Net Present Value represents the value of the entire toll revenue stream over a 50-year period in current dollars.

⁶ROW for Alternatives C-5 and 6 affect a pipe rack and infringe on Dow Chemical property. ROW for Alternatives F-12, 13, and 14 may affect Shintech's entry, substation, and pipe rack between two of their facilities.

ROW for Alternative F-14 may affect a tank farm at Willow Glen on the east bank. M-25-IX is a property only impact to Rubicon.

⁷All alternatives involve a bridge over the Mississippi River, which supports the endangered pallid sturgeon.

⁸Environmental Justice (EJ) screening of Census Tracts (not community level data) for all alternatives did not result in observation of impacts to EJ communities.



SECTION 6
ROUND 2 SCREENING:
FINAL RANKING



MRB SOUTH GBR: LA 1 TO LA 30 CONNECTOR ENHANCED PLANNING INVESTIGATION

6.0 FINAL RANKING

6.1 FINAL RANKING METHODOLOGY

After public and stakeholder outreach, the criteria against which the preliminary alternatives would be ranked were decided. As noted in Section 1.2, the objective of this EPI is to identify feasible corridor alternatives that best meet the preliminary purpose and need of transportation improvement, while preserving existing resources, and could be further advanced into DOTD's Project Delivery Process. Selected criteria were those that were important for meeting the purpose and need and those that would likely be important to permitting agencies. The criteria fell into three major categories (traffic, permitting, and public comment). The criteria for each included:

- Traffic
 - Vehicles per day expected on the tolled bridge in ADT,
 - Change in area-wide VHT,
- Permitting
 - Bridge/constructability issues,
 - Navigation issues,
 - Linear feet of pipelines/powerlines,
 - Acres of potential wetlands, and
- Public Comment
 - Public/stakeholder outreach.

This final set of criteria does not encompass all of the individual criterion presented in **Table 5-1**. While of interest to the traveling public, change in total vehicle hours on I-10 was not included, as the purpose and need of the project is connectivity and system redundancy between LA 1 and LA 30. Additionally, while cost is ultimately a factor, all 10 preliminary alternatives in Round 2 were determined reasonable, rendering this criterion less important for the final ranking. Also removed from the final ranking were total acres, structure impacts, essential fish habitat, LDEQ facilities, and 50-year net present value. None of these criteria was determined to be a deciding factor in meeting the purpose and need, permitting, or constructing the project.

Bar or line graphs were developed for individual criterion from the values in **Table 5-1**, as the top three, middle four, and bottom three (color coding) system did not, in every instance, uniformly represent the magnitude of the data differences between the preliminary alternatives. The graphics were analyzed to determine if more natural classifications could be observed within the data to re-group the data. Like values were grouped together, resulting in most criteria demonstrating three groups of values. While several criterion could have supported four or five



groupings, having a consistent number for all criteria, was important to ensure that the ranking and weighting of the criteria could be consistently applied. Rank numbers represent the value of the individual preliminary alternative relative to the other preliminary alternatives. The most favorable alternatives were grouped as ones (1), the least favorable were grouped as threes (3), and the moderate alternatives were grouped as twos (2).

For example, **Exhibit 3** provides the bar chart of linear feet of pipelines and utilities within the 600-foot corridor of each preliminary alternative. Preliminary Alternative H-19-VII is obviously the least beneficial having nearly double the linear footage of known utility and pipelines within its corridor than the second worst alternative F-14-V. Therefore, only H-19-VII received the least favorable ranking (3). The six preliminary alternatives with the lowest values (C-5-II, C-6-III, E-11-IV, K-22-VII, K-23-VII, and M-25-IX) were ranked as most favorable (1), leaving three preliminary alternatives (F-12-IV, F-13-IV, and F-14-V) to be ranked as moderate (2). This exercise was conducted for all applicable data categories reported in **Table 5-1**. Applicable data categories are those selected to be included in the final ranking and for which numeric values were available. Graphic representations of the rankings for each of the applicable data categories, as well as additional explanations on the rank numbers assigned to other criteria, are provided in **Appendix L**.

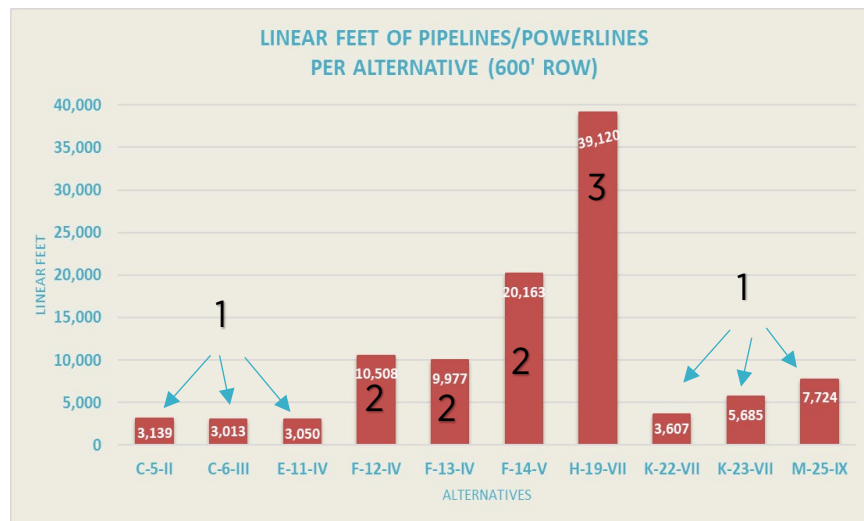


Exhibit 3. Example of Screening Data in Bar Graph Projection to Classify Most Beneficial Alternatives, Least Beneficial Alternatives, and Alternatives with Moderate Benefit instead of using Quartile System

Weighting factors (totaling 100%) were developed and applied to the compiled criteria to determine which of the 10 preliminary alternatives were best to advance into DOTD's Project Delivery Process. Each of the three major categories was allocated one-third of the total



percentage (33%) the remaining 1% assigned to permitting as it contains the most remaining criteria. Except for wetlands, each of the permitting criteria (bridge constructability, bridge navigation, and pipeline/powerlines) were given a weight factor of 7% reflecting that they are somewhat important at this stage. This is because the 10 alternatives that remained for the final evaluation had been screened in Round 1 and again for bridge considerations prior to Round 2. Wetlands (weight factor of 13%) were considered important and given a higher weight factor, because permitting through the USACE favors the least environmentally damaging practicable alternative. Likewise, the ADT criterion was also weighted at 13%, as low ADT alternatives were eliminated in Round 1, but increased capacity and connectivity are the purpose and need of the project and therefore relevant and important. The other traffic criterion, change in area-wide VHT, was weighted at 20%, reflecting that it is very important relative to purpose and need and assumes that travelers are more apt to use a route that would not measurably increase their travel time. Public comment resulting from public and stakeholder outreach was determined to have the most weight of a single criterion, assigned at 33%. This weighting reflects the fact that public and stakeholder acceptance is key to successful completion of this project and that public comment had not yet directly influenced the narrowing of alternatives, as it was not solicited prior to the Round 2 screening.

Early planning-level National Historic Preservation Act (NHPA) Section 106 coordination with the Native American tribes with cultural affinity to the project area was conducted by DOTD and FHWA. Correspondence describing the objectives of the project, maps of the remaining 3 alternatives, and a listing of the known cultural and historic sites within the proximity of the preliminary alternatives was distributed to the tribes. No responses were received from the tribes. DOTD and FHWA determined that additional efforts would occur when NEPA and NHPA Section 106 are initiated.

6.2 RESULTS AND RECOMMENDATIONS

As previously noted, the objective of this EPI is to identify feasible corridor alternatives that best meet the preliminary purpose and need of transportation improvement, while preserving existing resources, and could be further advanced into DOTD's Project Delivery Process. Each of the 10 Preliminary Alternatives presented at the Public Meetings could potentially be constructed, none have known fatal flaws, all would provide increased capacity and an alternate route across the Mississippi River, and as such, none of the 10 Preliminary Alternatives were eliminated. However, the objective of the EPI is to identify the alternatives that best meet the purpose and need. In accordance with 23 USC Chapter 1 §168 (b)(1), which allows for NEPA decisions to be made using data collected during the EPI process, it is reasonable to carry a limited number of feasible alternatives into NEPA consideration. Therefore, the three alternatives that best meet the purpose and need as screened in Round 2 and presented in Table 6-1 will be carried into NEPA for further analyses. **Table 6-1** presents the results of the Round 2 screening and ranking process. Lowest weighted average scores for the preliminary alternatives in **Table 6-1** represent the highest rank



preference. The weighted rankings were highlighted in a range of green, yellow, and red, to represent the most to the least favorable, consistent with the screening tables. Of the 10 preliminary alternatives, one alternative demonstrates a weighted average that is measurably better. Preliminary Alternative E-11-IV, with a weighted average of 1.29, bests the other nine alternatives by at least 0.42. Preliminary Alternatives F-13-IV and F-14-V have weighted average values at 1.71 that result in a tie for the second best spot relative to highest ranked alternatives, followed by Preliminary Alternative C-6-III, which is 0.15 higher than F-13-IV and F-14-V. The remaining six preliminary alternatives average 0.14 or more above C-6-III.

Advancing three or fewer build alternatives (in addition to the No-Build Alternative) was determined to be reasonable according to the purpose of the EPI process. Considering three alternatives will also allow for timely completion of the environmental clearance process. While Preliminary Alternatives F-13-IV and F-14-V utilize the same terminus at LA 1 and follow the same corridor for a portion of their routes, they cross the Mississippi River at different locations and have different termini at LA 30. As they are separate alternatives, Preliminary Alternatives F-13-IV and F-14-V are considered the second and third highest ranked of the preliminary alternatives. Based on the screening and analysis, the three preliminary alternatives, E-11-IV, F-13-IV, and F-14-V, best meet the project's purpose and need and were selected for advancement through the DOTD project development process. **Figure 5** provides a view of the three preliminary alternatives in the GIS constraints database mapper. Expected impacts to known resources are minor and may be avoided or minimized during design.



**TABLE 6-1
MRB SOUTH (SPN H.013284) FINAL RANKINGS OF ROUND 2 PRELIMINARY ALTERNATIVES**

ALTERNATIVES	TRAFFIC		PERMITTING				PUBLIC COMMENT	WEIGHTED AVERAGE (LOWER SCORES ARE BETTER)
	NUMBER OF VEHICLES PER DAY ON TOLLED BRIDGE IN 2042 (ADT)	CHANGE IN AREA-WIDE TOTAL VEHICLE HOURS IN 2042 (VHT)	BRIDGE/ CONSTRUCT- ABILITY ISSUES ¹	BRIDGE/ NAVIGATION ISSUES ²	PIPELINES/ POWER LINES (linear feet) ³	WETLANDS (acres) ³	PUBLIC/STAKEHOLDER OUTREACH ⁴	
		AM & PM						
<i>Weight Factor Contribution</i>	13%	20%	7%	7%	7%	13%	33%	
C-5-II	2	1	2	1	1	3	3	2.29
C-6-III	1	1	2	2	1	3	2	1.86
E-11-IV	1	2	1	1	1	1	1	1.29
F-12-IV	1	2	2	1	2	3	2	2.07
F-13-IV	1	2	3	2	2	2	1	1.71
F-14-V	1	2	3	2	2	2	1	1.71
H-19-VII	2	3	2	1	3	2	1	2.00
K-22-VII	2	3	1	1	1	2	3	2.50
K-23-VII	1	3	2	1	1	1	3	2.29
M-25-IX	1	3	2	1	1	1	3	2.29

TABLE NOTES:

ADT - Average Daily Traffic, VHT – Vehicle hours traveled

Numbers are representative of the relative benefit or impact determined by assigning integer scores of 1 (most favorable) to 3 (least favorable) to the data provided in Table 4-2.

Area-wide VHT in 2042 was scored based on the combined total of the AM and PM results.

Blue highlighted Alternatives have been identified as the best to advance.

Explanation of Category Weighting:

- ADT: Important: alternatives that did not support enough traffic were already removed from further study, more heavily traveled bridge alignments scored more favorably.
- Area-wide VHT: Very important: the purpose of the project is to provide for improved area connectivity.
- Bridge Constructability: Somewhat important: all the bridges will face constructability challenges due to the scope and scale of the project.
- Bridge Navigation: Somewhat important: navigation stakeholder acceptance is required to obtain USCG permit to construct the project; all options currently acceptable.
- Pipelines/Powerlines: Somewhat important: impacts can be mitigated at relatively smaller costs compared to the overall project cost.
- Wetlands: Important: this is an important consideration to achieve environmental clearance to allow project construction.
- Public Outreach: Most important: public and stakeholder acceptance is key to successful completion of the project.

Each major category represents approximately one-third of the total weight: Traffic = 33%; Permitting = 34%; Public Comment = 33%.

FOOTNOTES:

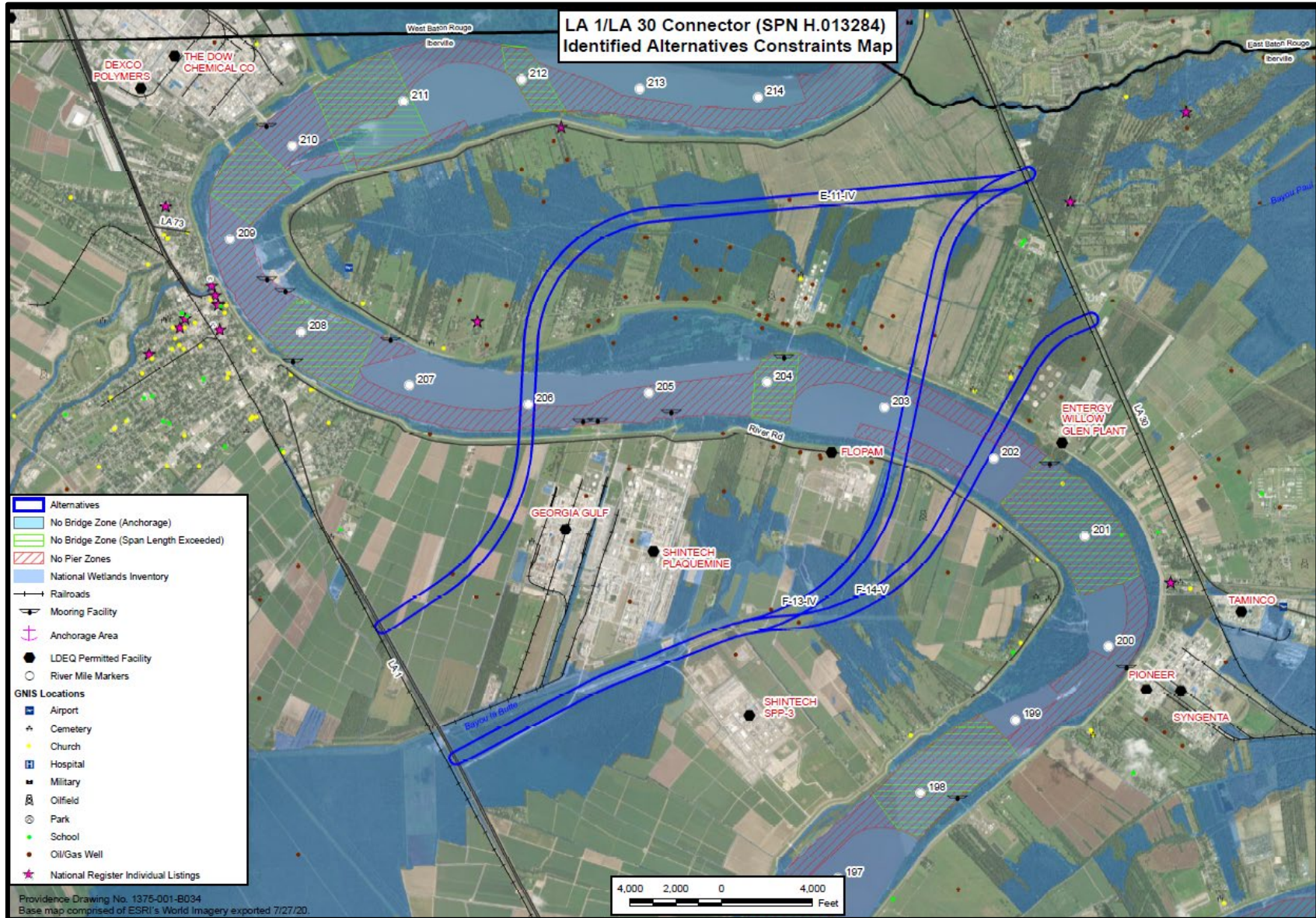
¹ Constructability Issues are carried forward from Table 4-2 and assigned numeric scores as follows: Minor = 1, Moderate = 2, Major=3.

² Impacts to Navigation were addressed in Table 4-1, ten alternatives presented with major impacts to navigation and were removed from Round 2 Screening. Remaining alignments were assigned numerical scores as follows: Minor = 1 and Moderate = 2.

³ Powerline and wetland totals are for mainline and interchange areas combined using a 300-foot buffer outside a 300-foot footprint for approximately 600 feet of ROW.

⁴ Outreach reflects the preferences of all respondents during the public outreach period with consideration of verbal stakeholder input. Those rated with a 3 demonstrated net negative support.

Figure 5
MRB South GBR: LA 1 to LA 30 Connector Highest Ranked Preliminary Alternatives with GIS Constraints Map





**SECTION 7
PLANNING AND ENVIRONMENTAL
LINKAGE CHECKLIST**



7.0 PLANNING AND ENVIRONMENTAL LINKAGE (PEL) QUESTIONNAIRE

This questionnaire is intended to act as a summary of the Planning process and ease the transition from planning to a NEPA analysis. Often, there is no overlap in personnel between the planning and NEPA phases of a project, so consequently much (or all) of the history of decisions made in the planning phase is lost. Different planning processes take projects through analysis at different levels of detail. NEPA project teams may not be aware of relevant planning information and may re-do work that has already been done. This questionnaire is consistent with the 23 CFR 450 (Planning regulations) and other FHWA policy on Planning and Environmental Linkage (PEL) process.

The PEL study is used in this questionnaire as a generic term to mean any type of planning study conducted at the corridor or subarea level which is more focused than studies at the regional or system planning levels. Many states may use other terminology to define studies of this type and those are considered to have the same meaning as a PEL study.

At the inception of the PEL study, the study team should decide how the work may later be incorporated into subsequent NEPA efforts. A key consideration is whether the PEL study will meet standards established by NEPA regulations and guidance. One example is the use of terminology consistent with NEPA vocabulary (e.g. purpose and need, alternatives, affected environment, environmental consequences).

FHWA will use this questionnaire to assist it in determining if the study meets the requirements of 23 CFR §§ 450.212 or 450.318.

1. Background:

- a) Who is the sponsor of the PEL study? (state DOT, Local Agency, Other)

Found here: [EPI Section 1.1 and EPI Appendix B: Stage 0 Preliminary Scope and Budget Checklist Section A](#)

- b) What is the name of the PEL study document and other identifying project information (e.g. sub-account or STIP numbers, long-range plan, or transportation improvement program years)?

Found here: [EPI Cover and EPI Appendix B: Stage 0 Preliminary Scope and Budget Checklist Section A](#)



- c) Who was included on the study team (Name and title of agency representatives, consultants, etc.)?

Found here: EPI Report 8.0 Project Team, EPI Appendix B: Stage 0 Preliminary Scope and Budget Checklist, Section A

- d) Provide a description of the existing transportation facility within the corridor, including project limits, modes, functional classification, number of lanes, shoulder width, access control and type of surrounding environment (urban vs. rural, residential vs. commercial, etc.)

Found here: EPI Report 1.3 and EPI Appendix B: Stage 0 Preliminary Scope and Budget Checklist, Section A

- e) Provide a brief chronology of the planning activities (PEL study) including the year(s) the studies were completed.

Found here: EPI Report 1.1 and EPI Appendix B: Stage 0 Preliminary Scope and Budget Checklist, Section A

- f) Are there recent, current, or near future planning studies or projects in the vicinity? What is the relationship of this project to those studies/projects?

Found here: EPI Report 1.1 and EPI Appendix B: Stage 0 Preliminary Scope and Budget Checklist, Section A

2. Methodology:

- a) What was the scope of the PEL study and the reason for completing it?

Found here: Appendix B: Stage 0 Preliminary Scope and Budget Checklist, Section B – Attachment 1

- b) Did you use NEPA-like language? Why or why not?

NEPA language was not used so that the planning-level analyses would be distinguishable from future NEPA analyses; there was a concern that use of NEPA language could confuse consulted agencies and the public about the current phase of the project within the delivery process. NEPA language was also avoided to ensure the NEPA process was not inadvertently initiated.

- c) What were the actual terms used and how did you define them? (Provide examples or list)

Preliminary Purpose and Need – Preliminary discussion of the issues or problems that this project would address.

Preliminary Alternative – 600-foot wide corridor representing a connector roadway and bridge between LA 1 and LA 30



Agency Coordination – initial correspondence submitted to Federal and state agencies to inform the agencies of the intent of the EPI and to collect information from the agencies.

Public Information Meetings – meetings held throughout project area providing project information and soliciting public input. The meetings were operated according to DOTD's Public Involvement Procedures.

d) How do you see these terms being used in NEPA documents?

Preliminary purpose and need may be updated during NEPA.

Preliminary Alternatives – will be considered as Alternatives for consideration in NEPA

Agency Coordination – correspondence received will be considered in NEPA, however, Solicitation of Views letters will be sent to agencies in the early stages of NEPA.

Public Information Meetings – applicable public input from meetings held in the planning stage will be considered throughout the NEPA stage. Additional Public Meetings and Public Hearings will be held in accordance with DOTD's Public Involvement Procedures.

e) What were the key steps and coordination points in the PEL decision-making process? Who were the decision-makers and who else participated in those key steps? For example, for the corridor vision, the decision was made by state DOT and the local agency, with buy-in from FHWA, the USACE, and USFWS and other resource/regulatory agencies.

The key decision points are provided in the EPI summary document as 1) the development of preliminary alternatives, 2) the prescreening of preliminary alternatives, 3) the 2 rounds of screening, 4) the weighted scoring of the final 10 preliminary alternatives, and 5) the suggested preliminary alternatives to be carried forward into NEPA analyses.

Decision-makers were the Project Team (including representative members from FHWA, DOTD, and consultants), regulatory agencies, and navigation stakeholders.

f) How should the PEL information be presented in NEPA?

The PEL information will be presented in NEPA, primarily as documentation of Alternative development and Alternatives Considered but Eliminated from Further Evaluation. The three highest ranked preliminary alternatives will be analyzed with a No-Build as the NEPA alternatives. The PEL document, this EPI summary, will be included as an appendix of the NEPA document.

3. Agency coordination:

Provide a synopsis of coordination with Federal, tribal, state and local environmental, regulatory and resource agencies. Describe their level of participation and how you coordinated with them.



Found here: EPI Report 1.3, EPI Report 6.1, EPI Appendix A: Agency Outreach, EPI Appendix B: Stage 0 Scope and Budget Checklist Section C, EPI Appendix K: Public & Stakeholder Engagement Summary

- a) What transportation agencies (e.g. for adjacent jurisdictions) did you coordinate with or were involved during the PEL study?

Found here: EPI Report 1.3, EPI Report 6.1, EPI Appendix A: Agency Outreach, EPI Appendix B: Stage 0 Section C, EPI Appendix K: Public & Stakeholder Engagement Summary

The Baton Rouge Metropolitan Planning Organization (CRPC) was invited to coordinate with the Project Team at decision-making milestones and during traffic and toll analyses. No official comments were received.

- b) What steps will need to be taken with each agency during NEPA scoping?

Correspondence received during the EPI's Agency Coordination will be considered in NEPA; however, a robust Solicitation of Views effort will be sent to agencies on DOTD's mailing lists (at a minimum) in the early stages of NEPA.

4. Public coordination:

Provide a synopsis of your coordination efforts with the public and stakeholders.

Found here: EPI Report Sections 1.6, 4.3 (USCG, Navigation Stakeholders), 4.4 (USACE and Levee Districts), 5.2.1 (Stakeholder and Public Input), and 6.1 (Tribal), EPI Appendix A: Agency Outreach, EPI Appendix B: Stage 0 Preliminary Scope and Budget Checklist Section C, EPI Appendix K: Public & Stakeholder Engagement Summary.

5. Purpose and Need for the PEL study:

- a) What was the scope of the PEL study and the reason for completing it?

The Scope of Work for this effort is included in EPI Appendix B: Stage 0 Preliminary Scope and Budget Checklist as Attachment 1.

- b) Provide the purpose and need statement, or the corridor vision and transportation goals and objectives to realize that vision.

Found here: EPI Report Sections 1.2 Preliminary Purpose and Need, 1.4 Corridor Vision, EPI Appendix B: Stage 0 Preliminary Scope and Budget Checklist Section B

- c) What steps will need to be taken during the NEPA process to make this a project-level purpose and need statement?

The Purpose and Need will be justified with data in the NEPA document.



6. Range of alternatives:

Planning teams need to be cautious during the alternative screen process; alternative screening should focus on purpose and need/corridor vision, fatal flaw analysis, and possibly mode selection. This may help minimize problems during discussions with resource agencies. Alternatives that have fatal flaws or do not meet the purpose and need/corridor vision will not be considered reasonable alternatives, even if they reduce impacts to a particular resource.

Detail the range of alternatives considered, screening criteria, and screening process, including:

- a) What types of alternatives were looked at? (Provide a one or two sentence summary and reference document.)

Found here: [EPI Report Section 2 Prescreening and EPI Appendix B: Stage 0 Scope and Budget Checklist Section E](#)

- b) How did you select the screening criteria and screening process?

Found here: [EPI Report Sections 2.1 Prescreening Methodology \(Identified areas where a bridge crossing would not be allowed or permitted by the USCG\), 3.1 Round 1 Screening Methodology \(Bridge constructability/feasibility, Travel Demand \[average daily traffic, Section 4\(f\) resources, and protected species critical habitat\), 6.1 Final Ranking Methodology and EPI Appendix B: Stage 0 Scope and Budget Checklist Section E](#)

Screening criteria addressing aspects of the preliminary purpose and need and the objective of the EPI (to identify feasible corridor alternatives that meet the purpose and need, are presumed permissible by regulatory agencies, and can be designed and built using proven engineering and construction practices) are provided in Section 6.1 of the EPI document.

- c) For alternative(s) that were screened out, briefly summarize the reasons for eliminating the alternative(s). (During the initial screenings, this generally will focus on fatal flaws.)

Found here: [EPI Report Sections 2.1 Prescreening Methodology, 2.2 Prescreening Results, 3.2 Round 1 Screening Results, 4.5 Alternatives Advanced to Round 2, 5.2 Round 2 Screening Results](#)

- d) Which alternatives should be brought forward into NEPA and why?

Found here: [EPI Report Sections 5.2 Round 2 Screening Results, 6.1 Final Ranking Methodology, 6.2 Results and Recommendations, and EPI Appendix B: Stage 0 Scope and Budget Checklist Section E](#)



- e) Did the public, stakeholders, and agencies have an opportunity to comment during this process?

Found here: EPI Report Section 4.1 Bridge Screening Methodology and Screening Results, 4.3 Impacts to Navigation, 4.4 Impacts to Levees, 5.2.1 Stakeholder and Public Input, EPI Appendix B: Stage 0 Scope and Budget Checklist Sections C and D, and EPI Appendix I: Public & Stakeholder Engagement Summary

- f) Were there unresolved issues with the public, stakeholders, and/or agencies?

Found here: EPI Appendix B: Stage 0 Scope and Budget Checklist Section F.

7. Planning assumptions and analytical methods:

- a) What is the forecast year used in the PEL study?

Found here: EPI Section 3.1.2 Travel Demand, 3.2.2 Travel Demand, 5.1.1 Travel Demand/Traffic, EPI Appendix B: Stage 0 Scope and Budget Checklist Section F, and EPI Appendix F: Traffic & Toll Model Reports.

- b) What method was used for forecasting traffic volumes?

Found here: EPI Appendix B: Stage 0 Scope and Budget Checklist Section F, and EPI Appendix F: Traffic & Toll Model Reports.

- c) Are the planning assumptions and the corridor vision/purpose and need statement consistent with each other and with the long-range transportation plan? Are the assumptions still valid?

The planning assumptions were included in the CRPC's model. The corridor vision and purpose and need for this project are consistent with the purpose and goals and objectives of the long-range transportation plan.

- d) What were the future year policy and/or data assumptions used in the transportation planning process related to land use, economic development, transportation costs, and network expansion?

Found here: EPI Appendix B: Stage 0 Scope and Budget Checklist Section F and in the Travel Demand Model.

Section 3.1.2 and Appendix F indicate that the project-specific MRB Model was based on the regional travel demand model developed and maintained by the CRPC. The CRPC Model was used in the development of the MOVE 2042 Metropolitan Transportation Plan



(CRPC 2018). There was an addendum to the MOVE 2042 plan, named MOVE 2046 to include several projects including East Baton Rouge Parish's MovEBR projects as well as other projects. The project-specific MRB Model incorporated the MOVE 2046 changes. Planning assumptions are expected to be valid through 2046.

8. Environmental resources (wetlands, cultural, etc.) reviewed. For each resource or group of resources reviewed, provide the following:

- a) In the PEL study, at what level of detail was the resource reviewed and what was the method of review?

Found here: EPI Report Section 1.5 Data Collection, 5.1 Round 2 – Data Collection Methodology, 5.1.7 Environmental Inventory Considerations.

- b) Is this resource present in the area and what is the existing environmental condition for this resource?

Found here: EPI Report Section 1.5 Data Collection, 5.1 Round 2 – Data Collection Methodology, 5.1.7 Environmental Inventory Considerations, and EPI Appendix B: Stage 0 Environmental Checklist.

- c) What are the issues that need to be considered during NEPA, including potential resource impacts and potential mitigation requirements (if known)?

During the NEPA process, the environmental resources will be analyzed under greater scrutiny than in the planning phase. Field surveys for wetlands, threatened and endangered species, migratory birds, bald eagles, cultural resources, etc. will be conducted, and their findings will be reported. Impacts to each resource from each alternative will be calculated and reported in the NEPA document. Permit applications will be prepared and a potential mitigation for impacts will be submitted to DOTD.

- d) How will the planning data provided need to be supplemented during NEPA?

During the NEPA process, the environmental resources will be analyzed under greater scrutiny than in the planning phase. Field surveys for wetlands, threatened and endangered species, migratory birds, bald eagles, cultural resources, etc. will be conducted, and their findings will be reported.

9. List environmental resources you are aware of that were not reviewed in the PEL study and why. Indicate whether or not they will need to be reviewed in NEPA and explain why.

During the NEPA process, environmental resources will be analyzed under greater scrutiny than in the planning phase. Environmental factors that are un-reported or not available from public sources are likely to be encountered in the surveys. Field surveys



for hazardous materials and contaminants will be conducted as part of the Phase I Environmental Site Assessments for the three alternative corridors. Any remediation or avoidance details will be documented in the NEPA document.

10. Were cumulative impacts considered in the PEL study? If yes, provide the information or reference where the analysis can be found.

Cumulative impacts were not considered in the PEL study. Cumulative impacts will be analyzed and reported in the NEPA document.

11. Describe any mitigation strategies discussed at the planning level that should be analyzed during NEPA.

Mitigation strategies were discussed in the PEL study. Impact avoidance to sensitive resources significantly drove the development of the preliminary alternative corridors. For example, Sections 2.1 and 2.1.1 identify how the bridge crossing locations were established in order to avoid fatal flaws or major impacts to federal navigation infrastructure in the Mississippi River. Section 2.1.2 describes the process of identifying and avoiding large facilities with LDEQ permits. Mitigation will be fully discussed in the NEPA document and cost estimates for mitigation for wetlands impacts, noise impacts, etc. will be reported.

12. What needs to be done during NEPA to make information from the PEL study available to the agencies and the public? Are there PEL study products which can be used or provided to agencies or the public during the NEPA scoping process?

The documents produced during this PEL process are posted and available for review on the Project's website: <https://www.mrbsouth.com/>.

The documents will be available throughout the life of the project.

13. Are there any other issues a future project team should be aware of?

Examples: Controversy, utility problems, access or ROW issues, encroachments into ROW, problematic land owners and/or groups, contact information for stakeholders, special or unique resources in the area, etc.

Benefits of the project have been overlooked in the media messaging of this project. Media and some stakeholders doubt that this project will provide any improvement in the traffic conditions on the I-10 MRB.

Project funding has not been completely identified.



14. Question added: Under which authority was this PEL equivalent study developed?

Found here: [EPI Report Section 1.7](#)



SECTION 8 PROJECT TEAM



8.0 PROJECT TEAM

In July 2020, DOTD entered into a contract with Atlas Technical Consultants, LLC and a team of sub-consultants to conduct an EPI into State Project Number H.013284, MRB South GBR: LA 1 to LA 30 Connector, whose ultimate objective is to construct a new crossing of the Mississippi River. Members of the Project Team include:

- DOTD
 - Paul Vaught, III – Critical Projects, Project Manager
 - Andrew Windmann – Bridge Design
 - Robert L. Lott – Environmental
 - Toby Picard – Road Design
 - Mathilda Rilovich – Traffic Engineering
- Consultant Team
 - Atlas Technical Consultants, LLC
 - Kara Moree – Project Manager
 - Jonathan Charbonnet
 - Sam Allen
 - Maria Bernard Reid
 - FIGG Engineering Group
 - Wade Bonzon
 - Christopher Burgess
 - CDM Smith, Inc.
 - Hugh Miller, Jr.
 - David Aron
 - Franklin Associates, LLC
 - Perry Franklin
 - Risa Mueller
 - James Taylor
 - Neel-Schaffer, Inc.
 - Nick Ferlito
 - Vijay Kunada
 - Charles LeBoeuf
 - Providence Engineering and Environmental Group, LLC
 - Paul Clifton
 - Kerry Oriol
 - Tanner Jones
 - Shread-Kuyrkendall & Associates, Inc.
 - Ripley “Gary” McClure
 - John Raymond
 - James Partin
 - GIS Engineering, LLC
 - Jacob Loeske
 - Brady Richard
 - Christian Malbrough
 - INRO Consultants Inc.
 - Steve Perone



SECTION 9 REFERENCES



MRB SOUTH GBR: LA 1 TO LA 30 CONNECTOR ENHANCED PLANNING INVESTIGATION

9.0 REFERENCES

- AECOM. 2014. The Baton Rouge Renewal and Mobility Plan (BUMP). Unsolicited Proposal to DOTD. 29 December 2014.
- Capital Region Planning Commission (CRPC). 2022. Ferry Feasibility Study. Prepared by Moffatt and Nichol and Gresham Smith. May 2022.
- CRPC and Louisiana Department of Transportation and Development (DOTD). 2013. Baton Rouge Metropolitan Planning Organization Metropolitan Transportation Plan (MTP) 2037. June 2013.
- CRPC and DOTD. 2022. MOVE 2046: Connecting Communities – Shaping our Future. Baton Rouge MPA's 2046 Metropolitan Transportation Plan. March 2022.
- Federal Highway Administration (FHWA), Louisiana Department of Transportation and Development (DOTD), and Capital Area Expressway Authority. 2015. *Baton Rouge Loop Tier 1 Final Environmental Impact Statement*. 28 December 2015.
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- DOTD. 2007. Stage 0 - Manual of Standard Practice. Available online: http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Multimodal/Pages/Stage_0.aspx. 25 January 2007